

IMPACT OF WELFARE REFORM ON SUBSTANCE ABUSERS' MEDICAID  
ELIGIBILITY AND SUBSEQUENT EFFECT ON ACCESS TO AND UTILIZATION OF  
BEHAVIORAL HEALTH SERVICES IN PHILADELPHIA, 1994-1999

Cynthia Leigh Blitz

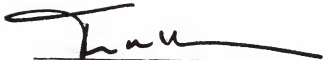
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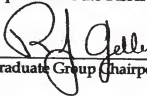
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## ABSTRACT

# IMPACT OF WELFARE REFORM ON SUBSTANCE ABUSERS' MEDICAID ELIGIBILITY AND SUBSEQUENT EFFECT ON ACCESS TO AND UTILIZATION OF BEHAVIORAL HEALTH SERVICES IN PHILADELPHIA, 1994-1999

Cynthia Leigh Blitz

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This study focuses on the secondary effects of recent welfare reform on a sub-population of welfare recipients who are treated for substance abuse disorders in Philadelphia, Pennsylvania. In recent years, welfare recipients with substance abuse problems have been directly targeted by welfare legislation or otherwise indirectly impacted by these measures. These individuals are particularly vulnerable to changes in eligibility for welfare benefits, as they often possess a host of health and mental health problems that make it difficult for them to escape dependency on welfare. Specifically, many welfare recipients with substance abuse problems are dependent on Medicaid (MA) for access to needed behavioral health services and are unlikely to receive alternative health insurance coverage upon loss of MA. Therefore, if welfare reform measures result in MA eligibility loss (permanent or temporary) for these individuals, they are also likely to limit access to and utilization of substance abuse treatment services.

The main proposition of the current study is that recent welfare reform measures altered welfare dynamics for substance abusers and, subsequently, introduced increased instability into patterns of MA receipt within this population. Consequently, these individuals' access to behavioral health services decreased. This proposition is tested by examining the impact of three separate welfare legislation

measures – the Contract with America Advancement Act of 1996, the Personal Responsibility and Work Opportunity Act, and a Pennsylvania state General Assistance (GA) initiative for a cohort of welfare recipients in Philadelphia who were receiving substance abuse treatment services in 1995 (N=12,573). Monthly Medicaid administrative data are utilized to follow patterns of welfare and MA eligibility for these individuals between 1994 and 1999 (i.e., two years prior and two years post welfare reform of 1996-1997).

The study's hypotheses are examined in three steps. First, the impact of welfare reform on welfare dynamics (e.g., number and length of individual welfare spells) is explored utilizing longitudinal data analysis techniques. Results indicate that the introduction of recent measures increased the likelihood of welfare eligibility loss, decreased the likelihood of return to welfare, and resulted in shorter than usual stays on welfare for the majority of individuals in the cohort, particularly for individuals eligible under GA. Next, similar methods were used to test the proposition that changes in welfare dynamics contributed to changing patterns of MA eligibility among substance abusers. The results of this analysis demonstrate a significant impact of welfare reform on increased number of interruptions in substance abusers' MA eligibility. Finally, findings concerning the association between welfare reform and substance abusers' access to behavioral health services suggest an independent contribution of welfare reform to decreased access to care within this population. The theoretical and practical implications of the study's findings are discussed.

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## CHAPTER 1: INTRODUCTION

### Research Problem

Typical evaluations of welfare legislation and reforms tend to focus on the intended or primary goals of these policy initiatives (Moffitt, 1998). Similar to previous welfare reforms, recent changes in social welfare policy (1996-1997) were initiated with the goal of decreasing federal expenditures and moving individuals from welfare to work (Blank, 1998). Findings from recent evaluations of these measures' impact on the population of welfare recipients suggest that the stated goals of the legislation are being met as individuals are leaving the welfare rolls to work at a higher rate than in the past (Allen & Kirby, 2000; Brauner & Loprest, 1999; Loprest & Zedlewski, 1999; National Health Policy Forum, 1999).

An adequate evaluation of the extent to which welfare policies influence the population of welfare recipients, however, should also focus on the unintended or secondary effects of these policies. This is particularly true in relation to the effect of reforms in welfare policy on the social and health status of welfare recipients (National Health Policy Forum, 1999; Schneider, 1998). While recent reforms were directed at reducing the welfare rolls overall, provisions were implemented in order to allow some individuals who left welfare for work or who lost welfare eligibility due to changes in eligibility criteria to retain their eligibility for health insurance under the Medicaid (MA) program. However, recent studies (Chavkin, Romero, & Wise, 2000; Garrett & Holahan, 2000; Ku & Bruen, 1999; Ku & Garrett, 2000; Maloy, Pavetti, Darnell, & Shin, 1999) have shown an association between welfare reform legislation and a reduction in the number of individuals eligible for MA coverage. Other studies (Brown &

Cousineau, 1991; Klein & Fish-Parcham, 1999; Lurie, Ward, & Shapiro, 1986; Wilensky & Berk, 1983) suggest that loss of MA eligibility may have serious implications on welfare recipients' access to and utilization of health services as these individuals are unlikely to gain alternative health insurance coverage. In addition, this reduction in MA eligibility has been linked to an increase in the percentage of non-elderly Americans without health insurance (Chavkin et al., 2000; Garrett & Holahan, 2000; Klein & Fish-Parcham, 1999; Ku & Garrett, 2000).

At present, the precise impact of welfare reform on receipt of MA for individuals who were eligible for welfare benefits (cash assistance and MA coverage or MA coverage alone) prior to welfare reform as well as for individuals who are attempting to enter the welfare system post reform is largely unknown (Schneider, 1998). While researchers have begun to examine the association between welfare reform and MA eligibility (e.g., Chavkin et al., 2000; Ellwood & Lewis, 1999; Garrett & Holahan, 1999; Hudman, 2000; Ku & Bruen, 1999), many studies fall short of offering conclusive empirical evidence in support of a causal association between the two. This may primarily be a consequence of a limited conceptualization of this association as well as limited empirical focus of investigation. Conceptually, there has been little attempt to consider this association within a dynamic framework, namely, one that recognizes that the impact of welfare reform on MA eligibility may be manifested in different forms and may be independent of the actual legislative measures that constitute welfare reform. For instance, a number of recent welfare reform measures were designed with the intention of allowing individuals to maintain MA eligibility even if they lost eligibility for cash benefits as many of these individuals find it difficult to obtain alternative health insurance coverage. Hence, researchers tend to focus on the impact of

this decoupling of MA eligibility for eligibility from cash benefits while neglecting to consider the effects of welfare reform on MA eligibility that are not directly derived from this legislation (e.g., change in demographic composition of the welfare population). Moreover, those who have examined such aspects (e.g., Ku & Garrett, 2000) have limited the scope of the empirical analysis to a particular legislative measure or a certain segment of the welfare population. This limited empirical focus, in turn, may mask the cumulative impact of several welfare reform measures on welfare recipients and prevent researchers from identifying differential effects of welfare reform across federal and state-level welfare eligibility programs.

#### **The Study's Rationale: Secondary Effects as a Function of Welfare Dynamics**

The current study's main proposition is that recent welfare reform measures contributed to changes in MA eligibility patterns among welfare recipients, indirectly, by changing welfare dynamics. Welfare dynamics refers to the dual-nature of welfare receipt (Bane & Ellwood, 1994). For many, welfare serves as a short-term transitional assistance, while for others, it serves as a long-term income support (i.e., welfare dependence). It follows that at any given time the welfare population consists of three distinct groups of recipients: long-term recipients, short-term recipients, and those who cycle on and off welfare over extended periods of time (i.e., cyclers). This dynamic nature of the welfare population, in turn, has immediate implications for patterns of MA eligibility within this population. Given that, welfare recipients can maintain eligibility for MA as long as they are eligible for a federal or state public assistance program, any loss of welfare benefits (specifically, of their cash assistance) places them at risk of losing eligibility for MA (health insurance coverage). It follows that to the

extent that welfare reform measures alter welfare dynamics (e.g., moving a long-term welfare recipient into a cycler), they are likely to introduce a certain degree of instability into patterns of MA eligibility. This instability in MA eligibility, in turn, is likely to impact access to health care for the welfare recipient.

This secondary impact of welfare reform particularly impinges on vulnerable sub-populations such as welfare recipients with substance abuse problems (substance abusers). In recent years, substance abusers eligible for welfare benefits have been directly targeted by welfare legislation measures or otherwise indirectly impacted by these measures. These individuals are particularly vulnerable to changes in eligibility for welfare benefits (i.e., cash assistance and health insurance or health insurance alone), as they often possess a host of health and mental health problems that make it difficult for them to escape dependency on welfare. Specifically, many welfare recipients with substance abuse problems are dependent on Medicaid (MA) for access to needed behavioral health services and are unlikely to receive alternative health insurance coverage upon loss of MA. Therefore, if welfare reform measures result in MA eligibility loss (permanently or temporarily) for these individuals, these measures are also likely to limit access to and utilization of substance abuse treatment services. Limited access to behavioral health care, in turn, may be associated with low prospects for decreasing welfare dependency among substance abusers.

### **The Study's Outline**

The study's main proposition is tested by examining the impact of three separate welfare legislation measures – the Contract with America Advancement Act of 1996 (P.L. 104-121, March 29, 1996), the Personal Responsibility and Work Opportunity

Act (P.L. 104-193, August 22, 1996), and a Pennsylvania state GA initiative (P.L. 175, No. 35) (Act 35, June 17, 1996) on a population of treated substance abusers in Philadelphia. The following chapter (Chapter 2) provides a brief overview of these measures and their direct link to MA eligibility and access to and utilization of behavioral health services by this population. In addition, the specific research questions are presented. Chapter 3 outlines the conceptual framework that guides the current study. The specific components of the process examined are discussed and hypotheses about the links among them are offered. Chapter 4 presents the methodological aspects of this study including the study's design, site, data, and measures. Chapter 5 includes the results of testing the study's hypotheses and Chapter 6 discusses the conclusions that can be drawn based on the results and their theoretical and practical implications.

## CHAPTER 2: BACKGROUND AND SIGNIFICANCE

### **Welfare Policy in the United States: A Historical Overview**

Social welfare policy in the United States has a complex history that is deeply engrained in the values of the nation at the time of legislation. The federal welfare state has grown in terms of size and expenditures over the years beginning with the Aid to Families with Dependent Children (AFDC) program in 1935 to provide welfare benefits to children and families and the implementation of Supplemental Security Income (SSI) in 1974 to provide welfare benefits to the blind, aged, and disabled. The Medical Assistance or Medicaid (MA) program was enacted in 1965 to provide these same low-income individuals and families with health insurance coverage. In addition to this federal safety net for low-income individuals and families, there are state programs that provide benefits to populations not covered by AFDC or SSI and these are collectively known as General Assistance (GA). The social welfare framework is complicated by the fact that types of services (both direct cash assistance and "in-kind" benefits, such as MA) provided to the eligible population vary across different forms of assistance (i.e., AFDC, SSI, GA) (Schneider, 1998). Therefore, category of assistance is important in determining level of benefits as well as whether an individual is eligible for both cash assistance and Medicaid (Cash) or only for Medicaid (Non Cash).

Although these programs have been in place since the early to mid-1900s, there has always been concern about social welfare programs with regard to cost and to proposed behavioral and attitudinal effects that social programs have on those who receive them (Rosenheck & Frisman, 1996; Schneider, 1998). Therefore, over the years,



different reforms have been proposed in order to either expand or limit the scope of the welfare state depending on the state of the nation at the time.

#### AFDC Program

The AFDC program originated in the Social Security Act of 1935 to provide Federal grants to states to share in the costs of state-designed programs for cash aid to needy children with absent parents. AFDC enrollment increased dramatically in the 1960s and 1970s. In 1981, Congress passed the Omnibus Budget Reconciliation Act (OBRA) which relaxed federal AFDC requirements and allowed states to experiment with welfare-to-work programs. OBRA also increased the range and type of choices available to states with their MA programs (Schneider, 1998). Continuing along this path, the Family Support Act of 1988 created the Job Opportunities and Basic Skills (JOBS) program to facilitate education and employment of AFDC recipients (Storey, 1995). The Family Support Act also required states to permit AFDC families who leave the welfare rolls through employment to retain their MA benefits for up to 12 months (Moffitt & Wolfe, 1993).

The Personal Responsibility and Work Opportunity Act (PRWORA) (P.L. 104-193) created the Temporary Assistance for Needy Families (TANF) block grant that replaced the Aid to Families with Dependent Children (AFDC) program in August 1996. Under the new law, states have more discretion in determining which individuals should receive welfare benefits and the amount of welfare benefits, as they can use TANF money for any programs that accomplish the purposes of the block grant. The goals of the block grant include providing assistance to needy families, ending the dependency of needy families on government benefits, preventing and reducing out-of-wedlock pregnancies, and encouraging the formation of two-parent families. However,

the federal legislation imposes new mandates with regard to work requirements and payment limits for those who receive TANF funds. For example, any parent who has received 24 months of assistance in programs funded through TANF must be working or in a work program in order to receive further funding. In addition, no family can receive funding from TANF if an adult in that family has already received 60 months of assistance over his or her lifetime. However, states are allowed to exempt 20% of their caseload from this 5-year time limit and states may also continue to support families with state only funds (Blank, 1998).

The new law retains AFDC eligibility limits for Medicaid use and requires 12 months of MA coverage to families who have earnings that lift above the AFDC eligibility limit (Blank, 1998). This means that families that are no longer eligible for cash payments under TANF may retain medical benefits (MA) under TANF (as the eligibility criterion for MA is the same as it was under AFDC). Moreover, persons convicted of drug-related felony for conduct occurring after enactment, i.e., occurring after August 22, 1996 are not eligible to receive TANF benefits (including MA under TANF).

#### SSI Program

Title XVI of the Social Security Act (P.L. 92-603) implemented in 1974 created the SSI program to provide uniform cash assistance to elderly, blind, and disabled individuals with limited resources (Blank, 1998). The purpose of the SSI program, which supplements any other cash income an eligible individual may have, is to assure a national minimum cash income guarantee to eligible persons (Solomon-Fears, 1996). SSI defines disability as the inability to engage in any substantial gainful activity by reason of a medically determinable physical or mental impairment expected to result in

death or that has or will last more than 12 months. Beginning with P.L. 92-603, individuals who were deemed disabled due to a substance abuse disorder were required to participate in treatment if available, to have that treatment monitored, and to have cash payments made to a representative payee (i.e., a person or agency responsible for managing the recipient's finances) (Solomon-Fears, 1996). Beginning in the early 1980s, an individual who lost SSI eligibility because of increased earnings (due to change in employment, family circumstances, etc.) could retain MA coverage under Section 1619 of Title XIX for as long as that individual had the disabling impairment.

In response to concerns that SSI recipients were using their cash payments to support their addiction, Congress passed legislation in 1994 (P.L. 103-296) that placed a 3-year limit on program benefits to persons disabled solely because of their addiction to drugs or alcohol, extended requirements on treatment and monitoring, encouraged organizations and agencies to act as representative payees, and temporarily or permanently ended benefits of recipients who failed to comply with treatment requirements. In August 1995, there were about 135,000 recipients nationally whose disability was based solely on an addictive disorder. The Congressional Budget Office estimated that as many as 75% of them could also be eligible for SSI based on another disabling condition (Solomon-Fears, 1996).

The Contract with America Advancement Act of 1996 (P.L. 104-121) mandated that an individual would no longer be considered disabled if drug addiction or alcoholism were the contributing factor material to his or her disability. Thus eligibility for SSI benefits ended for persons classified as substance abusers. The Act requires persons who qualify for SSI under some other disabling condition, but who are determined to have a drug or alcohol problem, to continue to receive their benefits

through a representative payee and participate in drug treatment services. The change took effect on March 29, 1996 for new applicants and on January 1, 1997 for individuals then receiving SSI. By June 29, 1996, P.L. 194-121 required that recipients previously classified as drug addicts or alcoholics be notified that their SSI eligibility was scheduled to end on January 1, 1997. The law also required these persons reapply for SSI benefits on the basis of a different impairment by July 29, 1996 and that their eligibility re-determination would occur no later than January 1, 1997 (Solomon-Fears, 1996; Solomon-Fears, 1997). Thus, loss of SSI benefits as a consequence of drug addiction could potentially result in transition to SSI based on another condition.

#### Welfare Policy in Pennsylvania (General Assistance)

Beginning with the initiation of welfare assistance to low-income individuals and families, some populations have remained outside the scope of federal programs. State programs that provide benefits to populations not covered by AFDC or SSI and that are administered entirely by the state, county, and/or locality in which the particular program operates are collectively known as GA programs (Uccello & Gallagher, 1997). GA programs are designed to meet the short-term or ongoing needs of low-income persons ineligible for (or waiting for) federally funded cash assistance, such as AFDC or SSI (Gallagher, 1999b). The population most often associated with GA is able-bodied adults without children although they are the least likely to be eligible for such assistance. In fact, GA programs are more likely to serve disabled, elderly, and otherwise unemployable individuals, and children or families with children. The maximum monthly cash benefits available to GA recipients are generally set far below the federal poverty level and are also lower than benefits in comparable federal assistance programs, such as AFDC and SSI (Gallagher, 1999a).

Of the 51 states (including the District of Columbia), 42 have GA programs in at least some localities. In 33 of these states, the programs are operated throughout the state (Uccello & Gallagher, 1997). In Pennsylvania, the GA program is uniform statewide with respect to eligibility rules and covers disabled, elderly, and other unemployable adults, as well as children and families with children. In addition, MA is provided to all recipients of GA. There is no formal screening for substance abuse, however, identified substance abusers must participate in a treatment program. There is also a work requirement where appropriate, and recipients must apply for federal assistance if eligible. In terms of the duration of assistance, assistance for temporarily disabled is provided for the duration of disability and assistance is provided for nine months in a life-time for persons in a drug or alcohol treatment program and for victims of domestic violence. Other categories of assistance have no time limits (Gallagher, 1999b).

In 1982, Act 75 (Act 1982-75) introduced time-limited cash grants (and MA coverage) and a distinction between Transitionally Needy (TN) and Chronically Needy (CN) GA recipients in Pennsylvania. GA recipients who were able-bodied adults between the ages of 18 and 44 were classified as TN GA recipients and were eligible for welfare benefits 90 days per year. While GA recipients who met certain criteria and who were under 18, between 18 and 20, and over 45 years old were eligible for GA under CN. In addition, families ineligible for AFDC, individuals with a physical or mental disability, and those receiving treatment for substance abuse were eligible for GA under CN. In 1994, P.L. 319, No. 49 (Act 49) further restricted the GA program in Pennsylvania by reducing the eligibility period for TN benefits and tightening eligibility requirements under the CN component of GA (individuals older than 45 who are not

disabled and are eligible for GA under CN were now eligible for GA under TN). Then, in 1995, P.L. 129, No. 20 (Act 20) eliminated the TN component of the GA program and introduced categorical eligibility for the GA program (determined using criteria formerly referred to as CN criteria). This significantly impacted able-bodied individuals under 45 years of age.

The specific reform considered in this study is P.L. 175, No. 35 (Act 35), implemented June 17, 1996, which redefined categorical eligibility for the GA Medically-Needy Only (MNO) program. Each recipient of cash or MA who may be affected by these changes was to undergo an individual re-determination of eligibility before these changes were applied to them. The MNO coverage option allows people who meet certain categorical requirements (children, adults with dependent children, aged, blind, or disabled) to deduct incurred medical expenses from their income when determining eligibility for MA (these individuals would be eligible for MA only). Under the new legislation, to receive MNO-MA, a person must be under 21, a custodial parent of a child under 21, over 59 years of age, pregnant, disabled but working at least 100 hours per month, or SSI pending. To be eligible for GA cash and GA-related MA only program, individuals must meet one of the following requirements: parents residing in a 2-parent household with child under 13 or older than 13 with a disability, individual verified as having a permanent or temporary physical or mental disability that precludes gainful employment, non parental caretaker of a child under 13 years of age, person undergoing active treatment for substance abuse if such treatment precludes the person from engaging in employment (9-month lifetime limitation remains), and a person who has a disability solely related to a substance abuse problem that prevents employment (eligibility for GA is contingent on accepting and participating in available

drug or alcohol treatment services). For purposes of this study, individuals who were eligible for GA cash benefits and MA coverage are considered eligible under GA Cash and those eligible for MA coverage only (including MNO-MA) are classified as Non Cash GA. These groups were not broken down further due to the limited numbers of individuals in the smaller subcategories.

### Relationship Between Programs

TANF and SSI are federal programs intended to provide services to children, families, and disabled individuals. GA is a state level program intended to provide services to similar at-risk individuals who do not meet the eligibility requirements for federal level programs but who are nonetheless poor and in need. While recent reforms in AFDC/TANF and SSI may not have specifically addressed GA, they impact each other in that new restrictions on federal assistance and the devolution of authority in determining eligibility for these federal programs provides states with greater flexibility in structuring coverage of their welfare populations. In addition, populations no longer eligible for federal assistance as a result of these new reforms may now become eligible for state GA programs (Gallagher, 1999b). At the same time, Pennsylvania welfare reform is intended to limit eligibility for GA for certain individuals and this tightening of welfare eligibility criteria across federal and state level programs will undoubtedly impact the welfare eligible population and other at-risk individuals and families.

## **Welfare Policy and Medicaid**

### **Medicaid**

An amendment to Title XIX of the Social Security Act in 1965 established Medicaid, a jointly funded Federal and state health insurance program for certain individuals and families with low incomes and resources. Historically, MA eligibility has been tied to eligibility for cash receipt, primarily through AFDC, SSI, and GA programs (Bruen, Wiener, Kim, & Miazad, 1999). Therefore, individuals or families eligible for cash benefits under a specific program would almost always be eligible for MA coverage as well (Hudman, 2000).

In recent years, MA coverage has been expanded to other poverty-related groups like children and pregnant women who do not qualify for cash assistance through legislation such as the Deficit Reduction Act of 1984 and the Consolidated Omnibus Budget Reconciliation Acts of 1985, 1986, 1987, and 1990 (Schneider, 1998). This legislation was implemented in an attempt to loosen the link between welfare receipt and Medicaid eligibility (Hudman, 2000). There are also other categorically needy groups who lose cash assistance but who retain MA eligibility for a period of time, such as individuals who lose AFDC due to increased earnings. In addition, states have the option to cover other Medically Needy (MN) individuals who do not qualify for welfare programs but incur large medical or long term care expenses and are able to deduct incurred medical expenses from their income when determining eligibility for MA. Some states have expanded coverage beyond traditional categories, e.g., non-disabled adults without children, through Section 1115 waivers (Bruen et al., 1999). These individuals then would be eligible for MA coverage and not for cash assistance.



Therefore, welfare eligibility (cash assistance) is tied to receipt of MA, however, an individual may be eligible for MA without being eligible for cash benefits.

#### Relationship between Changes in Welfare Eligibility and Medicaid Enrollment

As stated above, eligibility for MA historically has been tied to eligibility for cash assistance, however, in recent years, Congress and many states have expanded MA coverage to other at-risk groups in an attempt to loosen the tie between eligibility for cash assistance and eligibility for MA coverage. In addition, as eligibility criteria tighten for cash assistance across programs, provisions have been made in order to continue to provide MA coverage to families and disabled individuals that lose cash eligibility under both TANF and SSI at the federal level. Recent welfare reform measures have introduced guidelines that indicate that states must establish a two-tiered eligibility system in terms of determining eligibility for cash assistance and a separate eligibility determination process for MA. Therefore, while recent welfare reform does not change how MA delivers health care nor alter its entitlement status, it affects MA by introducing greater variability and experimentation with state MA initiatives and greater state control over MA program decisions (Schneider, 1998).

This decoupling of eligibility determination for cash assistance and MA coverage is a result, in part, of the different perspectives on providing cash assistance versus medical coverage. Cash assistance is often held in low regard, but there is little disagreement that low-income, sick people should receive health care. According to Holahan (1998), MA has broader political support than cash assistance for both moral and political reasons. First, morally, most people believe that people have a right to health care regardless of their financial status. Second, the inclusion of long-term care for the elderly in MA engenders much more political support for the program.

Recent reductions in MA caseloads and an increase in nation-wide uninsurance rates post-welfare reform have raised concerns about the link between welfare reform and loss of MA coverage. Historically, participation in the MA program increased between 1975 and 1996 as eligibility criteria were expanded (from 22 to 36.1 million recipients, respectively) but began to drop thereafter (to 32.9 million in 1999) (Health Care Financing Administration, 2000). A myriad of factors such as the strength of the economy, changes in demographic makeup, and state welfare and MA policies may determine states' MA caseloads (Ellwood & Lewis, 1999; Ku & Garrett, 2000; Maloy et al., 1999; U.S. General Accounting Office, 1999), however, many researchers believe that reductions in MA coverage are associated with loss of eligibility for welfare benefits (Chavkin et al., 2000; Ellwood & Lewis, 1999; Garrett & Holahan, 1999; Hudman, 2000; Ku & Bruen, 1999). For example, Garrett and Holahan (1999) found that only about one-quarter of women and one-half of children retained MA coverage a year after leaving welfare (i.e., cash assistance through TANF). Similarly, Moffitt and Slade (1997) found that MA covered 59 percent of children in the first year after their family left welfare (i.e., cash assistance through TANF), and that this figure dropped to 38 percent in the second year and to 33 percent in the third year. In addition, Maloy et al. (1999) found that welfare diversion policies may keep individuals from receiving public health insurance benefits in the first place that would impact the size of Medicaid as well.

Recent studies have also linked this reduction in MA eligibility to an increase in the percentage of non-elderly Americans without health insurance (Chavkin et al., 2000; Garrett & Holahan, 2000; Klein & Fish-Parcham, 1999; Ku & Garrett, 2000). For example, Short et al. (1988) found that more than half of individuals who lose their eligibility for MA fail to gain private health insurance and become uninsured. Schoen

and DesRoches (2000) examined the importance of continuous health insurance for access to care and found that individuals who do not have continuous health insurance coverage are at high risk of going without needed care. Therefore, loss of MA eligibility may reduce the access of these individuals to medical care and could impair their health status (Brown & Cousineau, 1991; Sournerai, McLaughlin, Ross-Degnan, Casteris, & Bollini, 1994). In addition, persistent disparities in health between racial and socioeconomic groups are thought to derive, in part, from disparate access to health care (Chavkin et al., 2000).

#### **Individuals with a Substance Abuse Disorder and Welfare Reform**

As stated above, many recent studies on welfare reform have considered families and their eligibility for TANF or individuals eligible for SSI. This study, in contrast, considers a group of treated substance abusers across federal and state welfare programs. The specific focus on individuals with substance abuse problems is important for several reasons. First, as discussed above, substance abusers were directly targeted by recent welfare reform measures. Second, they are particularly vulnerable to changes in their MA coverage, as many are unlikely to receive alternative health insurance that would provide them access to needed services. Third, they are prone to have a host of other social and health/mental health problems. Fourth, their prospects of escaping welfare dependency are directly linked to their prospects of receiving appropriate treatment. Lastly, little is known about welfare dependency among substance abusers regardless of welfare reform and it is vital to understand length of stay on welfare, frequency of welfare spells, and qualifying eligibility categories in order to better provide services that are needed to lead these individuals to

self-sufficiency. In addition, the focus on the population of substance abusers has some important policy implications. Hence, if welfare reform limits access to and utilization of substance abuse treatment services through changes in eligibility criteria, it is also expected to be associated with low prospects for reducing the problem of substance abuse and related problems within the welfare population (Schmidt, Weisner, & Wiley, 1998).

#### Substance Abuse Prevalence and Treatment

Substance abuse is a major public health problem in the United States that commands a substantial amount of public expenditures for health and non-health outcomes (\$110 billion a year according to recent estimates). Treatment and prevention expenditures account for 4.5% of total societal costs (Harwood, Fountain, & Livermore, 1998). Furthermore, public funding pays for a large portion of treatment for mental health, alcohol abuse, and other drug abuse (McKusick et al., 1998). For instance, in 1996, MA covered 16.8% of all expenditures on alcohol abuse treatment both in the public and private sector and 13.4% of all expenditures for treatment of other drug abuse (Mark, McKusick, King, Harwood, & Genuardi, 1998; McKusick et al., 1998).

Recent data from the National Comorbidity Survey (NCS) reveal that 26.6% of the US adult population had a lifetime prevalence of substance use disorder and 11.3% had a 12-month prevalence of substance use disorder, including abuse or dependence of alcohol or illicit drugs (Kessler et al., 1994). More than half of all lifetime disorders occurred in the 14% of the population who had a history of three or more comorbid disorders. These highly comorbid individuals also included the vast majority of people with severe disorders. Still, less than 40% of those with a lifetime disorder had ever

received professional treatment, and less than 20% of those with a recent disorder had been in treatment during the past 12 months (Kessler et al., 1994).

In addition, findings from the National Institute on Alcohol Abuse and Alcoholism's (NIAAA) National Longitudinal Alcohol Epidemiological Survey (NLAES) suggest that the trend in substance abuse prevalence among welfare recipients are comparable to this trend within the entire adult US population (National Institute on Alcohol Abuse and Alcoholism, 1996). Other studies have also found that rates of alcohol and drug use within the welfare population are similar to those among the subpopulation of dependent individuals that do not qualify for welfare benefits (Grant & Dawson, 1996).

#### Changes in Welfare Policy and Their Relevance to Substance Abusers

In recent years, individuals with substance abuse problems who are receiving welfare benefits (i.e., cash assistance and MA coverage or MA coverage only) have been both directly targeted by welfare legislation and otherwise indirectly impacted by these changes. In part, this can be explained by a government priority to lower the overall cost of public welfare programs by decreasing the number of individuals on welfare. More specifically, there has been much debate about the utility of disability payments for alcohol and drug abusers and policymakers have increasingly attributed key problems of the welfare system (such as welfare dependency and poor job prospects of recipients), to alcohol and drug addiction. In addition, as many people perceive substance abuse to be a self-inflicted problem, there has been much controversy over the principle of providing benefits to these individuals (Gerstein & Harwood, 1990; Gresenz, Watkins, & Podus, 1998; McKay, McLellan, Durell, Ruetsch, & Alterman, 1998; Rosenheck & Frisman, 1996; Schmidt et al., 1998). As substance abuse is increasingly

seen as 'deviant' or socially irresponsible behavior and not a disease (such as a mental illness), substance abusers have been hit hard by recent welfare reform measures that have directly addressed behavioral change as a qualifying criterion for welfare receipt (Lynch & Minkler, 1997; Rosenheck, 1997). Additional concerns about the provision of welfare benefits to substance abusers include rapid growth in the number of substance abusers receiving welfare, problems ensuring that the recipients were in treatment, and difficulty in monitoring how cash benefits granted to these individuals received were used in practice (Gresenz et al., 1998). The result has been a host of new federal, state, and county policies designed to move substance abusers off the welfare rolls and toward self-sufficiency.

In the past, individuals who had substance abuse problems may have received welfare benefits (i.e., both cash assistance and/or MA coverage) as a result of their income status and family status (e.g., unemployed parent), their income status and a physical or mental disability other than substance abuse (e.g., serious mental illness), or their income status and substance abuse problem (e.g., being treated for substance abuse). In addition, some individuals, who did not qualify for welfare programs but incurred large medical or long-term care expenses, may have been eligible only for MA coverage under the category of "medically needy".

The program through which an individual is eligible for welfare benefits (i.e., SSI, GA, or AFDC) determines the level of cash assistance. For example, a person eligible for SSI receives, on average, an amount of cash assistance that is 50% higher than an individual on GA. The amount of SSI cash assistance in 1997 was \$484 a month for an individual with no countable income and \$726 for a couple. In Pennsylvania, the amount of GA cash assistance is \$215 a month for an individual, \$330 for two persons

and \$421 for three persons. These levels of cash assistance have remained static since 1990 (Gallagher, 1999b). This difference is important to note as it signifies that a change in eligibility category (e.g., from SSI to GA) may have an impact on the amount of cash assistance being received by an individual. Therefore, it is not sufficient to know whether an individual is eligible for welfare or not, but under what eligibility category. More importantly for the purposes of this study, recent welfare reform measures have decoupled eligibility for MA and cash assistance and therefore, it is now likely that individuals will move within categories from one of receiving cash to one where they receive only MA coverage (e.g., GA Cash to GA Non Cash).

Recent welfare reform legislation (see Appendix A for time-line of legislation) influenced the population of substance abusers by redefining eligibility criteria, imposing additional restrictions on remaining eligible, de-coupling eligibility for MA coverage from eligibility for cash assistance, and granting the states more power to decide who is entitled for welfare benefits. First, the Contract with America Advancement Act of 1996 mandated that an individual would no longer be considered disabled if drug addiction or alcoholism were the contributing factor material to his or her disability. Consequently, substance abusers that were previously eligible for SSI benefits due to their substance abuse problem either were no longer eligible for welfare benefits or had their welfare benefits continued under a different category. For example, an individual who was SSI due to substance abuse pre-welfare reform may have still been eligible for SSI after welfare reform due to a mental illness. Similarly, a substance abuser that was previously eligible for welfare benefits under SSI may now be eligible for welfare benefits under a different category (e.g., GA).

Second, the Personal Responsibility and Work Opportunity Act imposed work requirements and time limits for families receiving TANF. In the long term, individuals who were receiving welfare benefits through the TANF program may now find it difficult (due, in part, to their substance abuse problem) to meet the work requirements and therefore may potentially lose their benefits. In addition, persons convicted of drug-related felony for conduct occurring after enactment, i.e., occurring after August 22, 1996, are not eligible to receive TANF benefits. This mandate has the potential to impact this population in the long term.

Finally, while the changes in Pennsylvania's GA program did not directly target substance abusers, it is expected to impact heavily on this sub-population indirectly, by increasing the likelihood of welfare eligibility loss for individuals aged 21-44. In addition, even if individuals with a substance abuse disorder remain on GA while in treatment and then lose their welfare benefits, it may be difficult for them to receive employment and they may, consequently, return to welfare at a future date.

### **The Research Questions**

The current research project examines three aspects of the impact of welfare reform on a population of welfare recipients who are treated for a substance-abuse-related disorder. The first aspect concerns the contribution of welfare reform to changing welfare dynamics within this sub-population. The general question asked in this context is whether or not the introduction of recent welfare reform measures contributed to changes in one or more of the following dimensions of welfare dynamics:

- (a) Length of stay (LOS) on welfare,
- (b) Likelihood of welfare eligibility loss,



- (c) Likelihood of return to welfare, and
- (d) Probability of experiencing shifts between or within welfare eligibility categories.

Shifts between categories refer to individuals who are eligible for welfare under one category (such as AFDC) and then remain eligible for welfare but under a different eligibility category (such as GA). Shifts within the same eligibility category refer to situations where a person previously eligible for both cash benefits and MA coverage lost eligibility for cash benefits but retained MA coverage (e.g., a shift from GA cash and MA to GA MA only) or vice versa (i.e., gained eligibility for cash benefits in addition to MA coverage).

An additional question in this respect is whether or not changes in welfare dynamics due to welfare reform are conditional on other characteristics of individuals within this population such as age, race, sex, initial welfare eligibility category (i.e., the eligibility category under which the individual was receiving welfare benefits prior to welfare reform), and the severity of the substance-abuse-related disorder. It is also important to examine the extent to which the impact of recent welfare reform measures is independent of the secular trend in welfare dynamics.

The second aspect examined in this study pertains to the association between changes in welfare dynamics following welfare reform and patterns of MA eligibility within this population. If welfare reform did alter patterns of welfare dynamics among substance abusers, it has also contributed to changes in MA eligibility patterns. This is because for many welfare recipients, eligibility for MA is conditioned on eligibility for welfare. Still, given that welfare reform measures were designed with the intention of reducing the number of individuals on welfare without eliminating eligibility for MA

coverage, it may be instructive to examine the impact of welfare reform on individuals eligible for MA coverage under two different mechanisms of support: eligibility for both cash benefits and MA coverage versus eligibility for MA coverage only. Thus, the question asked here is whether or not welfare reform has contributed indirectly (i.e., through its impact on welfare dynamics) to the following:

- (a) Likelihood of losing and regaining MA eligibility,
- (b) Length of Stay (LOS) on MA, and
- (c) Number of interruptions in MA eligibility (i.e., short cycles of eligibility and non-eligibility).

Here too, the question of whether or not the impact of welfare reform on MA eligibility dynamics varies across particular individual characteristics and is independent of secular trends is relevant.

The third and final question that the current study seeks to answer concerns the impact of welfare reform (through its changes on patterns of MA eligibility) on access to and utilization of behavioral health services by welfare recipients with a substance abuse disorder. Specifically, has welfare reform contributed to changes (increase or decrease) in access to and utilization of behavioral health services for a group of treated substance abusers?

### CHAPTER 3: CONCEPTUAL MODEL AND HYPOTHESES

This chapter more closely examines the research questions posed in the previous section and offers specific hypotheses regarding the impact of recent welfare reform measures on welfare recipients treated for a substance abuse disorder. Figure 3-1 describes the conceptual framework that guides the current research project. This conceptual framework centers around the principle that welfare reform contributed to changes in MA eligibility and, subsequently, to changes in substance abusers' access to and utilization of behavioral health services, by changing the dynamics of welfare eligibility for individuals within this sub-population. As stated above, substance abusers were both directly targeted and indirectly impacted by recent welfare reform legislation. This population is particularly vulnerable to changes in their welfare benefits as they often have a host of social and health/mental health problems that make it difficult for them to escape welfare dependency. Specifically, many of these individuals are dependent on MA in order to gain access to needed behavioral health services and are unlikely to receive alternative health insurance coverage upon loss of MA. If welfare reform limits access to and utilization of substance abuse treatment services through changes in eligibility criteria, it is also expected to be associated with low prospects of moving substance abusers from welfare to self-sufficiency. Figure 3-1, therefore, describes a dynamic process of change before and after welfare reform that is assumed to be conditional on individual characteristics such as age, race, sex, initial welfare eligibility category and severity of substance abuse disorder.

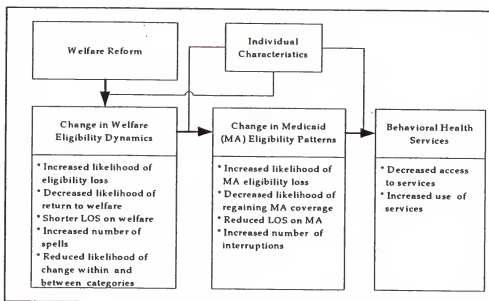


Figure 3-1: Proposed conceptual model for the relationship between welfare reform and substance abusers' access to and utilization of behavioral health services

Before moving to discuss the various links described in Figure 3-1, a word of clarification regarding the model's components is in order. A typical conceptual framework for the evaluation of the impact of welfare reform on welfare recipients takes into account the fact that changes in welfare policy are often motivated by the social climate and the particular social circumstances at the time of reform. For instance, reforms in times of prosperity, where the economy is strong and unemployment is low, are likely to diverge from reforms in times of recession (Blank, 1998; Lynch & Minkler, 1997). Similarly, a political climate that is predisposed to the notion of individual responsibility would generate different principles of welfare policy compared to a political climate that emphasizes social responsibility (Lynch & Minkler, 1997; Rosenheck, 1997; Schneider, 1998). In addition, local arrangements and policies that are state or county specific often dictate welfare policy. For instance, since GA is funded and administered entirely by the state in which the particular program operates,

reforms in the GA program are likely to vary across states and between local governments (Gallagher, 1999b; Watson & Gold, 1997). Similarly, states may diverge in the implementation of some changes in federal welfare programs. For example, recent welfare reform created a block grant to the states, TANF, to replace AFDC, and gives states leverage in using these monies for the stated purposes of the program. Therefore, it is not surprising to learn that differences across states in TANF implementation exist (Chavkin et al., 2000; Zedlewski & Giannarelli, 1997).

No doubt, the particular circumstances that surround the introduction and implementation of welfare reforms are important factors in explaining differential outcomes such as changes in the level of access to and utilization of behavioral health services among welfare recipients. Nonetheless, for a conceptual model to be valuable in studying the impact of welfare reform on the health status of welfare recipients across different settings and circumstances, as well as over time, it is prudent to focus on the aspects of the process that may be generalizable. Hence, the proposed model's particular focus on the *process* that links welfare reform to the health status of welfare recipients is not random, but rather a conscientious effort to study an aspect that is relevant in most settings or circumstances. In other words, while the determinants of welfare reforms are by no means universal, and welfare reforms themselves are far from being homogeneous in terms of goals and the means to achieve them, the process represented in Figure 3-1 (i.e., changes in welfare dynamics that affect patterns of MA eligibility which, in turn, influence health status) is assumed to be similar under most circumstances.

The following example may help clarify this point. During the past two decades, public sentiment about providing public assistance to disadvantaged

populations has increasingly shifted towards an emphasis on personal responsibility and self-reliance as guidelines for welfare policy (Rosenheck, 1997). This sentiment, in turn, was reflected in welfare policy of the Reagan-Bush and the Clinton administrations alike. While both administrations may have had a slightly different approach to meeting the goal of reducing welfare rolls (for instance, in terms of the federal government's involvement in the implementations of reforms) and operated within a different economic reality, the impact of welfare reform on the health status of welfare recipients under both administrations followed the same trajectory of first affecting these individuals' eligibility for MA and, subsequently, their access to and utilization of health services (Blank, 1998). It is the joint nature of public assistance (i.e., that it can include both cash assistance and medical benefits or medical benefits alone) that complicates welfare reform. The proposed model, then, focuses on conceptualizing this process's attributes as well as the particular circumstances under which this process would generate differential impact of welfare reform on sub-populations of welfare recipients.

### **Step 1: Effect of Welfare Reform on Changes in Welfare Dynamics**

Figure 3-1 suggests that the contribution of recent welfare reform measures to changes in welfare eligibility dynamics within the group of welfare recipients who were treated for substance abuse disorders may have been manifested in several ways. These include (1) loss of welfare eligibility, (2) reduced probability of returning to welfare, (3) shorter than usual stays on welfare, and (4) reduced probability of shifting within the same eligibility category or between eligibility categories. Shifts within the same eligibility category refer to situations where a person previously eligible for both cash

benefits and MA coverage lost eligibility for cash benefits but retained MA coverage (e.g., a shift from GA cash and MA to GA MA only) or vice versa (i.e., gained eligibility for cash benefits in addition to MA coverage). Shifts between welfare eligibility categories refer to situations where a person previously eligible for welfare benefits (both cash and MA or MA only) under a certain category becomes eligible for the same (or different) welfare benefits under a different category. For example, an individual may lose eligibility for cash benefits and MA coverage under SSI but regain eligibility for cash benefits and MA coverage under GA.

The expectation that welfare reform will increase the probability of welfare eligibility loss for welfare recipients treated for a substance abuse disorder is derived directly from the goals of recent welfare reform measures. One such goal was to reduce the number of individuals on welfare overall. In particular, the Contract with America Advancement Act of 1996 was aimed at eliminating eligibility for SSI based on a substance abuse disorder, and, therefore, is expected to reduce the number of substance abusers receiving welfare. In addition, more stringent requirements to retain welfare eligibility following welfare reform are likely to result in a reduced likelihood of return to welfare for individuals in this population. Many of these individuals have great difficulty meeting eligibility requirements (such as attending work programs or substance abuse treatment) due to their addiction. In addition, as previously noted, substance abusers tend to have shorter than average lengths of stay on welfare and this tendency may be intensified by welfare reform measures due to failure to meet the stricter requirements for state and federal assistance. This, in turn, is likely to result in more frequent cycles of welfare receipt and non-receipt. Finally, as the stricter criteria for welfare eligibility following welfare reform eliminates much of the flexibility that

used to accompany the process of decision-making in matters of individual eligibility for welfare, change within and between welfare eligibility categories is less likely.

*Hypothesis 1: Welfare reform measures will (a) increase the likelihood of welfare eligibility loss, (b) decrease the likelihood of return to welfare, (c) result in shorter lengths of stay on welfare, and (d) decrease the likelihood of experiencing change within or between welfare eligibility categories for the group of welfare recipients treated for a substance abuse disorder.*

The model in Figure 3-1 also proposes that the contribution of welfare reform measures to changes in welfare eligibility is presumed to be conditional on individual characteristics. It is plausible to expect, for example, that the impact of welfare reform on the welfare dynamics of a particular individual will vary by this person's level of severity of substance abuse problem. In general, the more severe an individual's substance abuse disorder, the smaller the likelihood that this individual will be dropped from welfare following policy changes. For one, individuals who fall into this category tend to have co-existing mental and physical health problems (Schmidt et al., 1998) and therefore may require more extensive publicly funded treatment. Moreover, even if these individuals lose eligibility based on their substance abuse disorder, they are likely to still qualify for welfare benefits due to a co-occurring mental or physical health disorder. Finally, these individuals often have difficulty maintaining employment (Strawn, 1999) and, therefore, are more likely to be dependent on welfare and perceived as such by the welfare system. In contrast, individuals with lower severity levels of substance abuse problems may be less dependent on welfare and publicly funded health care and, therefore, have a greater likelihood of being dropped from welfare



altogether or experience a shift within the same eligibility category following welfare reform. This expectation seems reasonable given that recent welfare reform measures were designed with the intention of allowing some individuals to retain MA eligibility even if they lost eligibility for cash benefits.

*Hypothesis 2: Following welfare reform, individuals with more severe substance abuse disorders will be less likely to lose welfare eligibility and more likely to retain eligibility by shifting into a different eligibility category in comparison to individuals with less severe substance abuse disorders.*

In addition to the severity of the substance abuse disorder, differential effects of welfare reform on sub-populations of treated substance abuse welfare recipients are likely to be contingent upon the particular legislation that mandated reform. As noted above, the Contract with America Advancement Act of 1996 mandates that an individual would not be considered disabled for the purposes of being eligible for welfare benefits under SSI if drug addiction or alcoholism were the contributing factor material to his or her disability. Therefore, the number of individuals treated for a substance abuse disorder and eligible for welfare under SSI is expected to decrease following the enactment of this measure. This decrease, however, is likely to be moderate as many of these individuals may still qualify for welfare under SSI due to a physical disability or mental health disorder (Gresenz et al., 1998; Solomon-Fears, 1996). This should be especially true for those individuals with a high severity level of a substance-related disorder.

*Hypothesis 3: The percentage of individuals eligible for SSI within the group of treated substance abusers will decrease moderately from the beginning of 1997 onward in comparison to the pre-welfare reform period. This decrease will be greater among individuals with lower severity levels of substance abuse disorder than among individuals with higher severity levels of substance abuse disorder.*

Next, the replacement of AFDC with TANF in August 1996 introduced new mandates with regard to work requirements and payment limits for those who receive TANF funds. For example, any parent who has received 24 months of assistance in programs funded through TANF must be working or in a work program in order to receive further funding. Moreover, persons convicted of drug-related felony for conduct occurring after enactment (i.e., occurring after August 22, 1996) are not eligible to receive TANF benefits. These new restrictions are expected to slowly decrease the number of individuals with a substance abuse disorder who are eligible for welfare under TANF as they may have difficulty meeting program requirements. As eligibility for TANF is primarily based on whether or not an individual has children and is not attached to health status, the effect of the shift to TANF on substance abusers should not differ across severity levels of a substance related disorder.

*Hypothesis 4: The percentage of individuals eligible for AFDC within the group of treated substance abusers will decrease incrementally from March 1997 onward in comparison to the prior period. There will be no difference in the magnitude of this decrease across substance abuse severity levels.*

Finally, changes in the GA program in Pennsylvania in June 1996 eliminated benefits for able-bodied employable individuals both with and without children. Unlike SSI and AFDC, eligibility for welfare under GA is not based on specific criteria (such as, dependent children) but rather provides short-term assistance to individuals who do not meet criteria for federal level programs. By its nature then, eligibility for welfare under GA is less stable and more prone to change than eligibility for welfare under other welfare categories. Therefore, one may expect to find that the number of welfare recipients treated for a substance abuse disorder in the GA category will decrease from June 1996 onward. Nonetheless, it is likely that individuals with high severity level of substance abuse disorder will remain eligible for welfare under a different eligibility category, particularly SSI, due to physical or mental disability.

*Hypothesis 5: The percentage of individuals eligible for GA within the group of treated substance abusers will decrease from June 1996 onward in comparison to the prior period. Greater percentages of individuals with lower substance abuse severity levels who were eligible for welfare under GA will be dropped from welfare compared to individuals with higher substance abuse severity levels.*

## **Step 2: Effect of Welfare Reform on Medicaid Eligibility**

The model in Figure 3-1 proposes that changes in welfare eligibility experienced by the population of welfare recipients treated for substance abuse problems are likely to influence these individuals' patterns of MA eligibility and subsequently, their behavioral health service utilization. The distinction between individuals eligible for

both cash benefits and MA coverage and those eligible only for MA coverage becomes important in this respect because the aforementioned welfare reform measures addressed this distinction and, therefore, may be predictive of differential impact of welfare reform on MA eligibility within the population of substance abusers.

According to the proposed model, there are at least four different ways in which changes in welfare eligibility may have influenced eligibility for MA. These include (1) an increased likelihood of MA eligibility loss, (2) reduced likelihood of return to MA, (3) reduced length of stay (LOS) on MA, and (4) increased number of interruptions (i.e., frequent short on and off MA spells). The risk of MA eligibility loss following welfare reform is expected to increase for individuals eligible for both cash benefits and MA as well as for those eligible only for MA. As previously noted, welfare reform did not impact MA eligibility by reforming the MA system or the general requirements for MA eligibility but, rather, through setting stricter criteria for welfare eligibility and giving states more control over MA eligibility decisions. As individuals and families that were previously eligible for welfare benefits (and, therefore, automatically eligible for MA) may not be able to meet the new requirements for welfare eligibility, they may also experience difficulty qualifying for MA coverage. Similarly, as MA eligibility is conditioned on meeting stricter requirements of welfare programs, the likelihood of regaining MA coverage is likely to be small (Short et al., 1988).

Besides leading to loss of MA eligibility altogether, welfare reform may have influenced patterns of MA eligibility by increasing the frequency of MA eligibility spells and decreasing the length of these spells (i.e., length of stay on MA) (Bane & Ellwood, 1994; Schmidt et al., 1998). For one, a shift between welfare categories before and after welfare reform may contribute to this as different welfare eligibility categories grant

different periods of eligibility (shorter or longer). For example, a person who was dropped from SSI or AFDC following welfare reform, but regained welfare eligibility through the GA program, is likely to experience a shorter length of stay on MA than before as GA is intended, at least in theory, to be a short-term program. Because these individuals are still likely to be dependent on the system, time-bounded (or short-term) eligibility for MA coverage is likely to result in an increasing number of repeated spells. Second, the fact that individuals now must meet stricter bureaucratic rules, such as work programs, may make it more difficult to meet these requirements over time. This is particularly true for substance abusers who have been shown to encounter difficulty complying with bureaucratic rules, perhaps because of the disorganizing influence that an addiction can have on a person's daily life (Schmidt et al., 1998; Strawn, 1999). However, once these individuals are capable of complying with these requirements (typically, within a few months), they may regain eligibility for MA coverage until the next time they drop due to failure to comply. This too may result in increased frequency of interruptions and shorter lengths of stay on MA.

*Hypothesis 6: Welfare reform will (a) increase the likelihood of MA eligibility loss, (b) decrease the likelihood of regaining MA coverage, (c) result in shorter lengths of stay on MA, and (d) lead to more frequent interruptions in MA eligibility for the group of welfare recipients treated for a substance abuse disorder.*

It is important to note that to the extent that hypothesis 1 is supported, hypothesis 6 will be supported as well due to the fact that eligibility for MA is conditioned on welfare eligibility status. In other words, for many in this population,

the risk of losing MA eligibility is synonymous to the risk of losing welfare eligibility. The same is true regarding the likelihood of return to welfare and changes in the average length of stay on MA. However, the prospects of MA eligibility loss may still be primarily a function of the eligibility category held by the individual prior to welfare reform. For instance, the shift from AFDC to TANF resulted in the decoupling of eligibility for cash benefits from MA coverage for families. This initiative aimed at placing greater restrictions on retaining eligibility for cash benefits while maintaining eligibility for MA coverage. Therefore, the percentage of individuals eligible for both cash benefits and MA under AFDC may be reduced following the shift from AFDC to TANF while the percentage of individuals eligible for MA only under the same category may increase.

*Hypothesis 7: The percentage of individuals eligible for both cash benefits and MA coverage under TANF will decrease following welfare reform in March 1997 for a group of treated substance abusers. The respective percentage of individuals eligible only for MA coverage under TANF will increase during the same period.*

On the other hand, the measure aimed at reforming welfare eligibility under SSI (Contract with America Advancement Act) did not specifically address the separation of eligibility for cash from that of MA and, therefore, the percentage of individuals eligible for both SSI cash and MA as well as SSI MA only is expected to decrease. However, the majority of individuals eligible for SSI are eligible for both cash benefits and MA coverage. Here too, the interplay between level of severity of health status and welfare eligibility is likely to generate only a moderate decrease because SSI is based on

disability and, therefore, to attain eligibility under SSI, in the first place, is in itself a proxy for severity of health status.

*Hypothesis 8: The percentage of individuals eligible for both cash benefits and MA coverage or MA coverage only under SSI will moderately decrease following welfare reform in the beginning of 1997 for a group of treated substance abusers.*

The most prominent impact of welfare reform on loss of MA eligibility is expected for the group of treated substance abusers eligible for MA only under the GA category. In most states that have GA programs (currently, 42 of 51 states, including the District of Columbia), GA benefits levels have fallen and eligibility criteria have become more stringent following recent welfare reform (Uccello & Gallagher, 1997). Hence, it is likely that the percentage of GA recipients who are eligible for welfare will sharply decline following welfare reform. This should be particularly true for the impact of changes in the GA program in Pennsylvania on those eligible only for MA coverage as Pennsylvania eliminated MA benefits for all able-body adults. The percentage of individuals eligible for both cash benefits and MA coverage is also expected to decline but not as sharply.

*Hypothesis 9: The percentage of individuals eligible only for MA coverage under GA within the group of treated substance abusers will sharply decrease following welfare reform in June 1996. The respective percentage of individuals eligible for both cash benefits and MA coverage will slightly decrease during this period.*

### **Step 3: Effect of Changes in Medicaid Eligibility on Behavioral Health Service Access and Utilization**

Medicaid coverage has been responsible for a substantial increase in access to and use of services by very low-income persons (Blendon, Aiken, & Freeman, 1986; Wilensky & Berk, 1983). As many individuals who lose MA coverage fail to gain private health insurance and become uninsured (Short et al., 1988), changes in public policy that reduce MA coverage for this population may have an adverse impact on access and utilization of care (Brown & Cousineau, 1991; Lurie et al., 1986; Wilensky & Berk, 1983). Moreover, studies have shown that loss of MA coverage results in the deterioration of health status among low-income individuals with chronic illnesses (Lurie et al., 1986).

In addition to loss of MA coverage, shorter and more frequent spells (i.e., interruptions in MA coverage) can also lead to reduced access to and utilization of behavioral health care (Harman, 1999). As length of time in treatment sessions has been shown to be positively associated with improved health outcomes (Ball & Ross, 1991; DeLeon, 1994; Gerstein & Harwood, 1990; Hubbard, Craddock, Flynn, Anderson, & Etheridge, 1997; McLellan & McKay, 1998; Simpson, 1997), short spells on MA and cycling in and out of the welfare system, are likely to fall short of providing these individuals with the treatment needed to lead them to self-sufficiency. In addition, research has illustrated that the natural course of primary alcohol and drug use disorders is usually chronic over a lifetime. While there is variation in substance use behavior over time, few individuals spontaneously attain stable abstinence (less than 5% per year) (Lehman & Dixon, 1995; Vaillant, 1983) and, therefore, need for treatment over time (although at varying levels of intensity) is probable.



The fact that individuals who lose MA frequently do not obtain alternative health insurance coverage and that length of time in treatment and access to treatment over time is likely necessary, it is expected that access to and utilization of health services would decrease within this population following welfare reform (as many are expected to be dropped from MA). In practice, however, only access (the ratio of behavioral health services to all individuals within this population) is expected to decrease while service utilization (the ratio of services to all individuals eligible for MA) is expected to increase. The reason for this involves the characteristics of the individuals remaining in the MA eligible pool. As previously noted, individuals with higher severity levels of substance abuse disorder are more likely to remain eligible for MA coverage following welfare reform in comparison to those with lower severity levels. These individuals are also heavy consumers of behavioral health services. However, it is important to note that individuals who experience intense periods of service utilization (where they may be receiving potentially expensive services, such as inpatient detoxification and short-term residential services) do not necessarily receive this level of service over extended periods of time. In fact, they may have high drop out rates of service use and cycle in and out of treatment. It is also possible that the use of more services by fewer individuals is not due to the severity of the population remaining eligible but rather due to provider behavior change over time in terms of treatment patterns.

It is important to emphasize that this study is focusing only on access to and utilization of MA behavioral health services. Therefore, during times of eligibility for MA as well as times of ineligibility for MA, some individuals in the group of treated

substance abusers may have received services outside of the MA system (including county-funded services or services funded through private health insurance).

*Hypothesis 10: Access to behavioral health services will decrease from March 1996 onward for the group of treated substance abusers.*

*Hypothesis 11: Utilization of behavioral health services will increase from March 1996 onward in comparison to the pre-welfare reform period for the group of treated substance abusers eligible for MA benefits.*

Table 3-1 summarizes the study's hypotheses for each of the three steps described in Figure 3-1. There are two aspects worth noting in this table. The first is that in each hypothesis the timing of welfare reform (before or after) is the independent variable. The second is that some hypotheses pertain to the impact of welfare reform on the individual substance abuser (i.e., hypotheses 1, 2, and 6) while the remaining hypotheses address the impact of welfare reform at the aggregate (namely, effects on sub-groups within this population). The implication of the latter for the data analysis method utilized are discussed in the next chapter.

Table 3-1: Summary of the study's hypotheses

Hypothesis	Welfare Reform's Impact is Manifested in	For Population	By	
Step 1: Effect of welfare reform on welfare dynamics				
1a	Increased likelihood of welfare eligibility loss	Substance abusers		
1b	Decreased likelihood of return to welfare	Substance abusers		
1c	Shorter length of stay on welfare	Substance abusers		
1d	Decreased likelihood of change within or between welfare eligibility categories	Substance abusers		
2	Differential likelihood of welfare eligibility loss	Substance abusers	Severity of substance abuse disorder	
3	Incremental decrease in the percentages of individuals eligible for welfare	Substance abusers eligible for SSI	Severity of substance abuse disorder	
4	Incremental decrease in the percentages of individuals eligible for welfare	Substance abusers eligible for AFDC		
5	Sharp decrease in the percentages of individuals eligible for welfare	Substance abusers eligible for GA	Severity of substance abuse disorder	
Step 2: Effect of welfare reform on MA eligibility patterns				
6a	Increased likelihood of MA eligibility loss	Substance abusers		
6b	Decreased likelihood of regaining MA coverage	Substance abusers		
6c	Shorter length of stay on MA	Substance abusers		
6d	Increased frequency of MA eligibility interruptions	Substance abusers		
7	Decreased percentage of individuals eligible for cash benefits and MA coverage	Substance abusers under AFDC		
7	Increased percentage of individuals eligible for MA coverage only	Substance abusers under AFDC		
8	Decreased percentage of individuals eligible for cash benefits and MA coverage or MA coverage only	Substance abusers under SSI		
9	Slight decrease in the percentage of individuals eligible for cash benefits and MA coverage	Substance abusers under GA		
9	Sharp decrease in the percentage of individuals eligible for MA coverage only	Substance abusers under GA		
Step 3: Effect of Changes in Medicaid Eligibility on Access to Behavioral Health Services				
10	Decreased access to behavioral health services	Substance abusers		
11	Increased utilization of behavioral health services	Substance abusers		

## CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

### Study Design

The study's hypotheses call for a pre-post welfare reform comparison of the status of welfare recipients with a substance abuse disorder. Hence, to evaluate the impact of welfare reform on this population, this study utilizes a time-series quasi-experimental design that is the closest approximation of a randomized trial (Cook & Campbell, 1979). To effectively control for external influences other than welfare reform, multiple measurements of variables were taken at equally spaced time intervals (i.e., months) for a pre-welfare reform period (January 1994 to February 1996), the intervention period (March 1996 through March 1997), and a post-welfare reform period (April 1997 to December 1999).

A pre-welfare reform period of 26 months is sufficient to detect non-stochastic (or systematic) components, such as trends and seasonal effects that may be responsible for some or all of the variance over time in the variables of interest. Controlling for these components by examining the previous history of the variable prevents researchers from falsely attributing changes in the level of outcomes over time to the impact of welfare reform. An intervention period of 12 months reflects the fact that the welfare reform measures considered in this study (i.e., P.L. 104-193, P.L. 104-121, and Pennsylvania Act 35) were introduced and implemented in the course of this year. Finally, a post-welfare reform period of 32 months was designated to evaluate the impact of welfare reform. The post-welfare reform period is longer than the pre-welfare reform period to accommodate the possibility that the impact of welfare reform on the variables of interest would be delayed due to external constraints (e.g., bureaucratic

processes or other technical difficulties concerning the implementation of the new policies).

## Site

The current research project is conducted on Philadelphia County in Pennsylvania. The commonwealth of Pennsylvania is currently the fifth most populous state in the country with 12 million residents and has the sixth largest economy in the US as measured by gross state product. In 1994, a smaller share of Pennsylvanians lived below the federal poverty level (FPL) than in the US as a whole (12.4 versus 14.3%) (Birnbaum, 1998).

In June 1997, there were approximately 1.5 million people enrolled in cash assistance and MA in Pennsylvania. Specifically, there were 274,566 eligible for SSI cash, 440,072 eligible for TANF cash, 73,157 eligible for GA cash, and 686,182 eligible for MA only (Ellis, Smith, & Rousseau, 2000). MA covers 11.2% of the state population, a slightly lower rate than for the country as a whole (12.2%). Pennsylvania has not expanded MA eligibility substantially above the federal minimums. However, Pennsylvania spends more on MA than most states, both as a share of state expenditures and on a per capita basis, and the state's MA spending is increasing faster than that of the US as a whole. In 1996, total MA expenditures were about 7.7 million (Birnbaum, 1998).

Pennsylvania's welfare and Medicaid enrollment patterns are generally similar to other states over the period from June 1997 to December 1999. For example, TANF decreased in Pennsylvania by 39.1% compared to 36% in other states (analysis was conducted for 21 states for which separate data were available). As for the SSI program,

enrollment in PA increased by 4.7% compared to 3.5% in 43 other states. Lastly, MA enrollment trends in Pennsylvania are somewhat different in comparison to other states. MA only enrollment in PA increased by 10.6% compared to about 30% for 18 other states for which data were available. In addition, total MA enrollment in PA decreased by 5.3% from June 1997 to December 1999 while it increased by 3.8% in other states (Ellis et al., 2000).

At present, Philadelphia County is one of ten urban counties nationwide that contain nearly one third of the entire nation's welfare cases (Allen & Kirby, 2000). Philadelphia is also the fifth largest urban area in the US (Birnbaum, 1998) with a large number of individuals on MA, approximately 500,000 in 1995. Philadelphia County is 100% urban and approximately 24% of its population has an income below the poverty level (Pennsylvania Department of Health, 1998). This large number provides sufficient power to detect changes of different magnitudes within the MA eligible population following welfare reform.

While urban caseloads are declining rapidly, they are shrinking more slowly than national caseloads. The nation's welfare caseloads dropped by 51.5% between 1994 and 1999 compared to 40.6% in urban counties and 36.2% in Philadelphia County (Allen & Kirby, 2000). Philadelphia County contained only 11.8% of Pennsylvania's total population in 1999 but 49.1% of Pennsylvania's welfare caseloads. In addition, racial and ethnic minorities are disproportionately represented on the Philadelphia County welfare rolls compared to their numbers in the total population. For example, Caucasians comprise more than half of the total population but only 11% of the welfare rolls, whereas African-Americans comprise just more than 40% of the total population but nearly 70% of the welfare rolls (The Brookings Institute, 2000). All of this suggests

that any conclusions drawn from this study are limited to Philadelphia County. Still, as previously noted, there is reason to believe that the patterns of change in welfare and MA eligibility observed in Philadelphia County may be instructive regarding changes that occurred in Pennsylvania in general, and other large urban counties, following welfare reform.

## **Data**

The current study employed an administrative longitudinal database on welfare recipients in Philadelphia County enrolled in the MA program. The goals of this research project require the use of a client-level claims database covering services to Medicaid beneficiaries in Philadelphia County over a 6-year period (1994-1999). The major portion of the claims data comes from the Pennsylvania Department of Public Welfare's Medicaid recipient and claims files. A detailed description of the databases follows:

1. The Medicaid Management Information System (MMIS): This system provides client-level data on drug and alcohol and mental health treatment provided to all MA-eligible Pennsylvania residents between 1994 and 1999. Claims records include information on type of treatment, provider and client-status variables such as MA identifier number, geographic location of client, eligibility, age, race, gender, diagnosis, procedure, charges, and payment. In addition, a supplemental file, known as the eligibility file, is used for identifying characteristics of MA clients related to changes in eligibility status, other MA benefits, other insurance, and movement in and out of eligibility. Provider information files are also available and

can be linked to individual clients and services (see Rothbard, Schinnar, Hadley, & Rovi, 1990).

2. Management Information System of Community Behavioral Health (CBH):

Philadelphia County's MA behavioral health care system moved from fee-for-service to a managed care program, CBH, in 1997. Therefore, CBH claims data were used for the period, 1997 to 1999, in the current study. As with the MMIS data, claims records include information on type of treatment, provider and client-status variables such as MA identifier number, geographic location of client, eligibility, age, race, gender, diagnosis, procedure, charges, and payment.

Potential Limitation of Existing Data

The data utilized in this study are not free of some important limitations. These include incomplete measures and representativeness and are discussed in detail below.

*Incomplete measures.* The impact of changes in welfare eligibility on MA eligibility and subsequent access to and utilization of behavioral health care is determined using eligibility and utilization data from Medicaid administrative claims. Because only MA administrative data is used in this study, access to and utilization of behavioral health services outside of the MA system is unknown. This includes the possibility that individuals are receiving additional services to those that are reimbursed by MA (during periods that they are MA eligible) as well as the possibility that individuals are receiving services either through the county system or through private insurance (during periods of MA ineligibility). Therefore, decreased access to care for individuals during periods of MA ineligibility cannot be directly estimated. However, it is still possible to estimate access to behavioral health services under MA for the group of treated substance abusers if an assumption is made that the level of



additional services utilized by these individuals does not systematically vary as a function of time. This seems to be a reasonable assumption given that substance abusers on welfare rolls tend to be dependent on MA coverage (Short et al., 1988).

An additional concern with regard to the available data is that due to changes over the research period in the system of financing behavioral health services, complete records of utilized services is not available for some individuals. Specifically, a reliable record of services is not available for individuals who moved from a fee-for-service (FFS) system into voluntary health maintenance organizations (HMOs) prior to the implementation of a mandatory managed care program in Philadelphia for all Medicaid recipients (in 1997). Hence, the analysis of service use over time was limited to individuals that had a complete and reliable record of services. About 40% of the original group of treated substance abusers remained in the fee-for-service MA system until receiving health benefits through the mandatory managed care program. This potential caveat is addressed in Chapter 5.

*Representativeness.* A typical concern about the use of secondary data is the extent to which these data are representative of the population they were drawn from. A non-representative sample may result in biased estimates of effects and may even lead to spurious conclusions. However, given that the data used in this study represent the universe of welfare recipients who were being treated for a substance abuse disorder, the concern about the data's representativeness is negligible.

### **Study Population**

To make the study's population comparable across all three welfare reform periods (i.e., before, during, and after), a cohort of substance abusers was selected and

followed over time. This cohort was composed of all adults (between the ages of 18 and 64) in Philadelphia County who were eligible for Medicaid during fiscal year (FY) 1995 and who received treatment for a substance abuse problem (N=12,573 clients). All individuals in the cohort had at least a single exclusive service contact related to a substance abuse disorder during (FY) 1995 (i.e., a contact that was not carried over from the period prior to July 1994).

Results from the National Comorbidity Study (NCS), a general adult population sample, indicate that 26.6% of respondents had a lifetime prevalence of substance use disorder and 11.3% had a 12-month prevalence of substance use disorder (including abuse or dependence of alcohol or illicit drugs). 12-month prevalence was 2.5% for alcohol abuse, 7.2% for alcohol dependence, .8% for drug abuse, and 2.8% for drug dependence (Kessler et al., 1994). In addition, males were significantly more likely than females to have a lifetime history of illicit drug dependence (9.2% vs. 5.9%) (Warner, Kessler, Hughes, Anthony, & Nelson, 1995). For our sample of treated substance abusers in 1995, we would expect that approximately 11% of the total Philadelphia welfare population in that year would have had a substance use disorder and that approximately 20% of them would be identifiable in our data as having received substance related services. Therefore, with an annual estimate of approximately 200,000 adults eligible for MA in Philadelphia in 1995, we would expect approximately 4,400 individuals to be treated for substance related disorders. Our cohort consists of 12, 573. The discrepancy may be due, in part, to the fact that individuals in our cohort may have had an alcohol or drug-induced disorder only and not a diagnosis of drug/ alcohol abuse or dependence as in the NCS. However, the difference may be explained predominantly by the fact that we are considering individuals across both federal and

state levels of public assistance and there tend to be more treated substance abusers in the GA (state level) program compared to the rest of the welfare population and the population as a whole. Studies on welfare recipients that report a similar level of prevalence of substance abuse disorder in the welfare population as in the general population often refer to federal categories of assistance, specifically, TANF or SSI.

Treatment for a substance abuse problem was determined by any contact in FY 1995 associated with a primary diagnosis (PDX) of alcohol psychoses, drug psychoses, alcohol dependence, drug dependence, or nondependent abuse of drugs (see Appendix B for more details). These individuals' records concerning welfare and MA eligibility status and behavioral health service utilization were followed for a period of 72 months between 1994 and 1999. The cohort's characteristics are summarized in Table 4-1.

Table 4-1 shows that the cohort primarily consisted of African-Americans, males, and relatively young individuals (aged 18-36). The most frequent drug-related disorders (i.e., abuse or dependence) experienced by members of this cohort were cocaine and opioid, followed by alcohol and other drugs such as hallucinogens, cannabis, and amphetamines (See Appendix B for more details). In addition to drug-related disorders, 12.3% had a co-occurring diagnosis of severe mental illness defined as schizophrenia and major depressive disorder (mostly with alcohol and cocaine) and 12.2% had a co-occurring diagnosis of a mental health disorder (again, mostly with alcohol and cocaine). Finally, about half of the individuals in the cohort were eligible for both welfare benefits (i.e., cash assistance) and MA coverage (i.e., health insurance) under the GA category. An additional 21.6% were eligible for MA only under the same category. A substantial number of individuals were also eligible for both welfare benefits and MA coverage under SSI (13.7%) and AFDC (11.4%).

Table 4-1: Cohort characteristics (N = 12,573)

	Percent	Mean (SD)	Median
Age (18 – 64)		36.88 (8.65)	36
Race			
Caucasian	24.5		
African-American	63		
Hispanic	11.5		
Other	1		
Sex			
Male	72.1		
Female	27.9		
Primary Diagnosis (PDX) <sup>‡</sup>			
Alcohol or drug induced disorder	21.4		
Alcohol abuse or dependence	23.6		
Opioid abuse or dependence	28.1		
Cocaine abuse or dependence	37.2		
Other drug abuse or dependence	21.6		
Co-Occurring Mental Health Diagnosis			
Severe mental illness	12.3		
Mental health disorder	12.2		
Welfare Eligibility Category in FY 1995 <sup>†</sup>			
GA (welfare + Medicaid)	49.8		
GA (Medicaid only)	21.6		
AFDC (Welfare + Medicaid)	11.4		
AFDC (Medicaid only)	1.8		
SSI (Welfare + Medicaid)	13.7		
SSI (Medicaid only)	.4		
Other (Medicaid only)	1.2		

<sup>‡</sup> Cumulative percentage is greater than 100% as 23.7% of individuals had two or more PDXs .

<sup>†</sup> GA = General Assistance, AFDC = Aid to Families with Dependent Children, SSI = Supplemental Security Income.

## Variables and Measures

This study follows a cohort of individuals over time. For this reason, some of the variables examined are fixed over time (i.e., time-invariant) while others change as a

function of time (i.e., time dependent). These two sets of variables are considered here separately.

### Time-Invariant Variables

The time-invariant variables in this study are either control or classification variables. Control variables include the person's age (in years in 1995), sex (male or female), and race (White, Black, Hispanic, Other). The classification variables include the welfare eligibility category a person held in FY 1995 (i.e., the initial welfare eligibility category) and the severity level of this person's substance abuse disorder. The initial welfare eligibility category consists of four general eligibility categories (AFDC, SSI, GA, and other) that are further broken down into eligibility for both cash and MA and eligibility for MA only (i.e., 8 levels of welfare eligibility altogether).

Finally, the level of severity of a substance abuse disorder was determined for each person based on his or her primary diagnosis (PDX) in FY 1995. One obvious way to rank the severity of a particular disorder based on PDX is to distinguish between induced disorder, abuse and dependence (Gerstein & Harwood, 1990). However, given the very small percentage of individuals in the cohort who occupied the "abuse" categories (1-3%), the abuse and dependence categories were collapsed together into substance-specific categories (i.e., alcohol, opioid, cocaine, and other drug) while drug or alcohol-induced disorder were collapsed into a single, separate category. In addition, about 37% of the individuals in the cohort had two or more drug-related disorders. For example, of those individuals who had an alcohol-related disorder (N = 2,970), 26.4% also had a cocaine-related disorder and 13.6% had a disorder related to other drugs. Similarly, 7% of individuals with an opioid-related disorder (N = 3,533) also had a primary diagnosis of a cocaine-related disorder. The most severely drug-impaired

individuals are dependent on one drug and make heavy use of one or more others (including alcohol), perhaps to the point of multiple dependencies. Many such individuals also have serious mental illnesses and medical complications (Gerstein & Harwood, 1990). The NCS found that highly comorbid people (with a history of three or more comorbid disorders) made up the vast majority of people with severe disorders (Kessler et al., 1994).

Hence, to more accurately determine the relative level of severity for each individual in the cohort, individuals with only a drug or alcohol induced disorder (9.1%) were assigned a low level of severity, whereas the medium level of severity consisted of individuals with a single drug disorder (74.3%), and the high severity category consisted of individuals with 2 or more alcohol or drug related disorders (16.6%). Alternatively, this variable could have been created by assigning individuals to severity categories based on type of drug dependence, i.e., opioid/cocaine, alcohol, or other drug dependence. As it turns out, this criterion generated a similar distribution of substance abusers across severity levels in this data. For this reason, the results reported here were based on an analysis utilizing the former version of this variable. It is important to note, however, that severity was derived from a single measure (i.e., PDX) and may be limited in the extent to which it actually captures level of severity of substance abuse problem. The fact that this variable was not a significant predictor of a co-occurring mental health diagnosis among individuals in the cohort seems to strengthen this notion.

#### Time-Variant Variables

Time-variant (or time-dependent) variables are those that are related to the process of change described in Figure 3-1. These primarily include the dependent and

independent variables in each step of the analysis. The primary independent variable in this study is the timing of welfare reform. This variable has three categories (before, during, and after) that are included in the analysis as dummy variables.

The dependent variable in the first step of the analysis is change in welfare eligibility category. Change is determined by comparing eligibility status between adjacent months (i.e., one measure per month for 72 months) and is measured as a nominal variable (no change, loss of welfare eligibility, gain of welfare eligibility, change between categories, and change within categories).

The dependent variables in the second step of the analysis (i.e., effect of welfare reform on MA eligibility) are changes in MA eligibility, length of stay on MA, and number of interruptions in MA eligibility. Here too, change in MA eligibility is determined by comparing MA eligibility status between adjacent months and is measured as a nominal variable (no change, loss of MA eligibility, gain of MA eligibility). The reader is reminded that these categories are identical for the ones indicating change in welfare eligibility status. MA interruptions are defined as short on and off MA spells where a spell is defined as one to three sequential months of continuous MA eligibility or non-eligibility.

The dependent variables in the final step of the analysis are access to and utilization of behavioral health services. Access is measured as the ratio of services utilized to the number of individuals in the cohort. Level of service utilization is measured as the ratio of services utilized to the number of individuals in the cohort who are MA eligible (this number is likely to vary from month to month). For the purposes of quantifying these variables, qualifying services include drug and alcohol-related hospitalization, mental health hospitalization, methadone outpatient contact, drug and

alcohol outpatient contact (other than methadone), mental health outpatient contact, mental health partial hospitalization contact, and mental health case management contact.



## CHAPTER 5: RESULTS

### Step 1: Impact of Welfare Reform on Welfare Eligibility

#### Evidence of Impact at the Cohort-Level

Hypothesis 1 proposes that welfare recipients treated for a substance abuse disorder will be more likely to lose welfare eligibility following welfare reform than prior to welfare reform. A test of this proposition at the aggregated-level would examine whether the percentage of welfare eligibles within this substance abuse population dropped following welfare reform. Figure 5-1 describes the trend in percentages of individuals in the cohort who were eligible for welfare receipt in each month between January 1994 and December 1999. All substance abusers in the cohort are eligible for welfare benefits during some period in 1995 in order to be included in the study population. However, individuals may be on or off welfare (on a monthly basis) over the study period. The solid vertical bars in this figure distinguish between three periods in relation to welfare reform: pre-welfare reform period (January 1994 – February 1995), welfare reform period (March 1996 – March 1997), and post-welfare reform period (April 1997 – December 1999).

Figure 5-1 shows that while the monthly percentage of welfare eligibles within the cohort increased between January 1994 and May 1995 (from 63.7% to 84.1%), this percentage decreased sharply from June 1995 onward (to a level of 37% in December 1999). In addition, it seems that the significant drop in the percentages of individuals eligible for welfare occurred in two stages. The first, that preceded welfare reform, took place in late 1995 (from 84.1% in May 1995 to 69% in December of that year) and is likely to reflect the impact of a GA legislation measure from this year (Act 20), which

eliminated the transitionally needy (TN) component of GA. The second, that occurred between March and September 1996 and involved a sharp drop of 13.3% (from 67.2% to 53.9%) in the monthly percentage of individuals eligible for welfare, clearly overlaps the period in which the recent welfare reform measures were introduced and implemented.

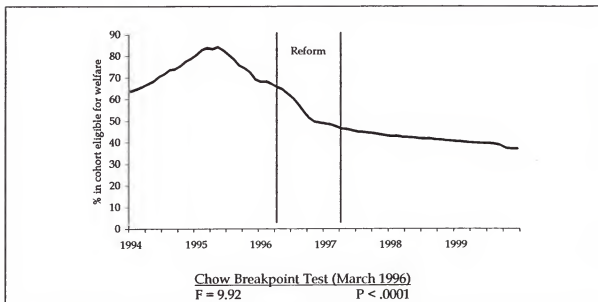


Figure 5-1: Monthly percentages of individuals in a cohort of substance abusers eligible for welfare, Philadelphia, Pennsylvania, 1994-1999 (N = 72 months)

While it is unlikely that this decrease in the series' level occurred by chance, it may be better to test this assumption statistically. To this end, a Chow breakpoint test (Chow, 1960) was employed. To invoke this test, the dependent series (i.e., the monthly percentages of welfare eligibles) was regressed on time (measured by months) as a single predictor (N = 72) using ordinary least square regression. The Chow Breakpoint test, which is a special application of an F-test, tests the null hypothesis that a regression coefficient estimated with the same regression model from a sub-sample of the data (e.g., from half of the series or 36 time points) will be the same as the one

generated from fitting the same model to another sub-sample of the data (providing that both sub-samples are of equal size) as well as similar to the regression coefficient estimated from the entire data (i.e., the one generated in the first step). The actual Chow test statistic is calculated through a comparison of the sum of squared residuals obtained by fitting a single regression model to the entire sample (72 months in this case) with the sum of squared residuals obtained when two similar models are fit separately to each sub-sample of the data (i.e., once to the period prior to March 1996 and once to the period after March 1996). When there are significant differences in the estimated regression coefficients (as indicated by a statistically significant F-value), the conclusion is that a structural change (and not the secular trend) contributed to the observed increase or decrease in the series level after the cut-off point. The results of this test (see bottom of Figure 5-1) show that March 1996 was a statistically significant division point for the entire series. This finding supports hypothesis 1a that welfare reform led to a decrease in the number of individuals in the cohort who were eligible for welfare throughout the research period. However, this analysis tells us little about the impact of welfare reform on the dynamics of welfare eligibility.

#### Changes in Substance Abusers' Welfare Eligibility Dynamics

Hypothesis 1 further proposes that change in patterns of welfare eligibility following welfare reform may be manifested in different forms: increased likelihood of welfare eligibility loss (hypothesis 1a), decreased likelihood of return to welfare after being dropped (hypothesis 1b), shorter length of stay (LOS) on welfare (hypothesis 1c), and decreased likelihood of experiencing changes involving shifts between and within welfare eligibility categories (hypothesis 1d).

Let us begin with the impact of welfare reform on the average LOS on welfare. Consistent with hypothesis 1c, the average length of stay on welfare has decreased for members in the cohort following welfare reform. On average, individuals in the cohort were eligible for welfare receipt in 40 months (SD = 22.68) of the 72 included in the analysis. Still, as Table 5-1 illustrates, the average LOS on welfare in each year decreased monotonically from 1995 to 1999. The difference in average LOS between the three periods of welfare reform (pre, during, and post) was still statistically significant in a univariate analysis of variance when controlling for the linear effect of time measured by years ( $F = 6049.7$ ,  $df = 3$ ,  $p < .001$ ).

Table 5-1: Average length of stay (LOS) on welfare (in months) for individuals in the cohort by year, Philadelphia, Pennsylvania, 1994-1999 (N = 12,573)

Year	Mean # of MA eligibility Months	SD	Mean Difference between adjacent years <sup>§</sup>	t-value
1994 (N = 11,412)	8.49	4.32		
1995 (N = 12,573)	9.47	3.58	.98**	-23.2
1996 (N = 9,649)	7.17	4.95	-2.3**	65.09
1997 (N = 7,398)	5.48	5.39	-1.69**	49.09
1998 (N = 6,656)	5.03	5.43	-.45**	14.95
1999 (N = 6,051)	4.69	5.43	-.34**	11.87

<sup>§</sup> The significance of mean differences was tested with paired-samples T-tests.

\*\* $p < .001$ .

Table 5-2 compares the characteristics of individuals in the cohort who experience no change in welfare eligibility between 1994 and 1999 to those who experienced either 1-2 changes or 3 or more changes in welfare eligibility. Individuals who experience no change are long-term welfare recipients (i.e., eligible under the same welfare eligibility category for the entire research period). In contrast, individuals who experience 1-2 changes over a period of 72 months are likely to be shorter-term welfare

recipients and those who experience a greater number of changes are “cyclers” (individuals who cycle on and off welfare or between welfare eligibility categories).

Table 5-2: Characteristics of individuals in the cohort by number of changes in welfare eligibility experienced between 1994-1999, Philadelphia, Pennsylvania, (N = 12,573)

	No change (N = 1,038)	1-2 Changes (N = 3,354)	3 or more changes (N = 8,181)
<u>Age</u>			
Age 18-32	16.7%	25.5%	38.5%
Age 33-40	28.7%	32.8%	36.1%
Age 41-64	54.6%	41.7%	25.4%
<u>Race</u>			
Caucasians	26.5%	28.1%	22.8%
African-Americans	60.9%	58.2%	65.2%
Hispanic	11.1%	12.6%	11.2%
Other	1.5%	1.1%	.9%
<u>Sex</u>			
Males	59.7%	71.6%	73.9%
Females	40.3%	28.4%	26.1%
<u>Severity of Substance Abuse</u>			
Low	11.3%	9.5%	8.6%
Medium	76.1%	76.8%	73.1%
High	12.6%	13.7%	18.3%
<u>Initial Welfare Eligibility Category</u>			
GA	15.9%	60.4%	82.5%
AFDC	11.6%	15.8%	12.4%
SSI	71%	21.4%	3.9%
Other	1.5%	2.4%	1.2%

The number of cases reported for each category in Table 5-2 suggests that cyclers constituted the majority of individuals in the cohort (65%). Compared to individuals with more stable patterns of welfare receipt, cyclers were more likely to be members of younger age groups and those eligible for welfare under GA. This difference may be explained by differential prospects of leaving welfare to work that are higher for younger substance abusers. It is also likely, however, that this difference may be explained by the fact that individuals under the age of 45 were targeted by the GA

initiative of 1995. The fact that 72% of the youngest age group (18-32) were eligible for welfare under GA in FY 1995 seems to strengthen this potential explanation. Also notable is the slightly higher percentage of cyclers among individuals with high severity level of substance abuse disorder. This may be due to the fact that these individuals do not remain in treatment for extended periods of time but rather cycle in and out of short-term intensive treatment with little incentive to retain eligibility. In addition, it may be an indication that individuals with multiple substance dependencies find it difficult to retain welfare eligibility over extended periods of time due to treatment and administrative requirements. Finally, the relatively high percentage of females among those who experienced no change may be explained in part by the fact that females make up the majority of AFDC recipients (75.8%), which is a more stable welfare eligibility category than GA (which consists predominantly of males in the cohort – 80.9%).

Figure 5-2 examines the trend in the monthly percentages of individuals in the cohort that experienced different types of changes in welfare eligibility status (i.e., loss of welfare eligibility, change involving a shift from eligibility under one category to eligibility under another category such as from SSI to GA, and change involving a shift of status within the same eligibility category). Percentages were calculated from the number of individuals in the cohort eligible for welfare in each month (which decreased over the research period, see Figure 5-1). Notice that the sharp increase in the series' level in the beginning of 1994 is simply an artifact of the way change was calculated, which forced the first observation into a value of zero for all individuals.

The pre-welfare reform period is characterized by a relatively high volume of changes within the same welfare eligibility category (frequently, from eligibility for both

welfare benefits and MA coverage to eligibility for MA only) and increasing volume of welfare eligibility loss. From February 1994 to March 1995, an average of 2.56% of the substance abusers in the cohort experienced change within the same welfare category in each month. This figure dropped to 1.74% in the remaining months of 1995 and the first two months of 1996. In contrast, the monthly percentage of individuals who lost eligibility for welfare more than tripled (an increase of 3.46%) between February 1994 and December 1995, but dropped sharply (by almost 3%) in the beginning of 1996. As previously noted, the peak in the percentage of individuals who lost welfare eligibility in late 1995 is likely to reflect the impact of earlier GA legislation (Act 20). Finally, the percentage of individuals in the cohort experiencing change involving a shift between welfare eligibility categories remained fixed under 1% throughout this period.

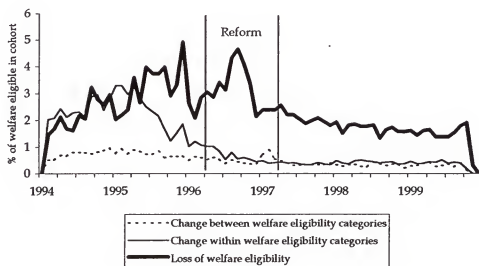


Figure 5-2: Monthly percentages of individuals in a cohort of substance abusers experiencing change in welfare eligibility by type of change, Philadelphia, Pennsylvania, 1994-1999 (N = 72 months)

The period in which welfare reform measures were introduced is characterized by a notable peak in the monthly percentage of individuals in the cohort of substance abusers that experienced loss of welfare eligibility and negligible changes in the percentages of those experiencing other types of change. From a level of 2.85% in March 1996, the monthly percentage of those experiencing welfare eligibility loss increased to 4.65% in October 1996. From this month onward, the percentages of individuals experiencing welfare eligibility loss gradually declined from 3.36% in November 1996 to .31% in November 1999. The monthly percentages of individuals experiencing other types of change in welfare eligibility remained fixed at a level lower than 1% throughout the remaining research period. This pattern of findings indicates that the impact of welfare reform on loss of welfare eligibility occurred primarily during the second and third quarters of 1996. This in turn suggests that of the three measures considered, GA Act 35 (June 1996) had a greater impact on this population than that of the Contract with America Advancement Act of 1996 (January 1997) and TANF (March 1997).

#### Impact of Welfare Reform on Likelihood of Change in Eligibility Status

The findings in Figure 5-2 suggest, as proposed by hypotheses 1a and 1d, that welfare reform increased the risk of welfare eligibility loss for all individuals in the cohort and decreased the likelihood of experiencing other types of change (namely, changes involving a shift between welfare eligibility categories or within the same eligibility category). However, the particular risk experienced by each individual may be conditional on factors other than welfare reform such as demographic characteristics and time (or trend). To claim a significant impact of welfare reform on the likelihood of change in welfare eligibility status (and, subsequently, MA eligibility status), it is



prudent to demonstrate that welfare reform had an independent contribution to this likelihood, over and above the effects of time and other constant or time-dependent factors.

Generalized estimating equations (GEE) models offer one way of estimating effects on likelihood of events with longitudinal data (Allison, 1999). This technique is essentially a general linear model (GLM) that offers some desirable benefits concerning the analysis of clustered data (including repeated measures for the same individual over time). Specifically, the algorithm used by this technique re-estimates correlations between repeated measures in each iteration and, therefore, produce standard errors and test statistics that are adjusted for dependence. In addition, GEE estimation makes efficient use of all information in the data and is quite flexible in terms of modeling linear and non-linear associations over time. One caveat of this method is its inability to correct estimates for bias resulting from omitted explanatory variables at the cluster level.

The particular model used in this analysis was a logistic regression estimated with GEE that can be mathematically expressed as follows:

$$\log \frac{P_{it}}{1 - P_{it}} = \beta X_i + \phi R_{it}$$

Where  $P_{it}$  is the probability of experiencing a certain change in welfare eligibility status for individual  $i$  at time  $t$ ,  $X_i$  is a vector of the time-invariant characteristics of the individual (i.e., age, race, sex, and severity of the substance abuse disorder) and  $R_{it}$  represents the contribution of time-dependent variables (i.e., linear and non-linear functions of time as well as the timing of welfare reform) to the odds of experiencing change. Including time-invariant variables in the equation allows the researcher to

control for those (observed) covariates that are fixed over time for each individual. Including linear and non-linear (i.e., quadratic, cubic, etc.) functions of time in the equation allows the researcher to control for trends. This model was estimated using the GENMOD procedure in SAS while indicating that measures were repeatedly taken from each individual in the cohort for a period of 72 months. Hence, each individual in this analysis was treated as a single cluster with 72 observations (a total of  $12,573 \times 72 = 905,256$  observations for the purpose of estimation). Given the large number of time points and the fact that all observations were already appropriately sorted within each cluster (individual), there was no need to set the time variable as one that distinguishes observations within each cluster (which will result in the model estimated from 71 dummies of time). Instead, time variables (both linear and non-linear) were treated as continuous independent variables in this analysis.

To allow for a more informative comparison of welfare reform's impact on substance abusers' likelihood of experiencing a certain change in welfare eligibility status, a separate analysis was performed for individuals initially eligible for welfare under different welfare programs (AFDC, SSI, and GA). The research hypotheses and the pattern of findings reported thus far (Table 5-2) suggest that a person's initial welfare eligibility category may be predictive of differential outcomes of welfare reform on the population of substance abusers. Hence, a comparison of estimates across welfare eligibility categories is likely to be particularly informative. In addition, performing the same analysis for sub-populations substantially reduced the computational efforts needed to analyze a very large number of observations without resorting to alternatives (such as collapsing measures into larger time units) that may minimize the ability to fully explore the true dynamic nature of the process modeled.

Table 5-3 summarizes the results of fitting GEE models to three types of change in welfare eligibility status (welfare eligibility loss, change between welfare eligibility categories, and change within the same welfare eligibility category). In all cases, the same model was fit to three sub-samples of the population distinguished by initial welfare eligibility category (AFDC, SSI, GA). All categorical variables (race, sex, severity of substance abuse disorder, and timing of welfare reform) were transformed into dummy variables with respective reference categories (Hispanics and others, females, low severity, and pre-welfare reform). Since the GENMOD procedure does not generate odds ratios and their respective confidence intervals, all entries in this table were generated by exponentiating the GEE parameter estimates ( $e^{\beta}$ ) as well as the lower and upper limits of their respective 95% confidence intervals.

Prior to estimating each model, an exploratory analysis was performed to determine the number of trend variables to be included in each model. Unlike the other variables in the analysis, the trend variables are time-dependent variables that can be either linear or non-linear. Misspecification of time variables as predictors may lead to failure to adequately control for the secular trend in the dependent variable (due to under-specification). Since, in addition, the main independent variables in all analyses (the dummies for during and post welfare reform) are measured in relation to time, including too many trend variables in the analysis may undermine (or even completely wash out) the impact of welfare reform. Hence, it was important to determine how well different functions of time (linear, quadratic, and cubic) fit the actual trend in the dependent variable by using R-square as a measure of goodness-of-fit. All estimated GEE models in Table 5-3 include a linear function of time (or a trend variable). Variables representing non-linear functions of time (quadratic and cubic) were included

as additional predictors only to the extent that they made a significant contribution of 5% or more to the R-square measure of the trend in a specific dependent variable.

Table 5-3: GEE estimates of substance abusers' likelihood of experiencing changes in welfare eligibility by demographic and personal characteristics and timing of welfare reform, Philadelphia, Pennsylvania, 1994-1999

Explanatory Variables	Welfare Eligibility Loss		Change Between Welfare Categories		Change Within Welfare Categories	
	Adjusted OR	95% CI	Adjusted OR	95% CI	Adjusted OR	95% CI
<b>AFDC (N = 119,736)</b>						
Age	0.98**	(0.98, 0.99)	1.00	(0.99, 1.01)	0.99**	(0.98, 0.99)
Male	1.21**	(1.10, 1.33)	0.88	(0.75, 1.02)	0.75**	(0.61, 0.91)
Caucasian	1.08	(0.94, 1.24)	1.00	(0.80, 1.26)	0.95	(0.72, 1.25)
African-American	1.06	(0.93, 1.21)	1.07	(0.87, 1.31)	1.35**	(1.06, 1.72)
Medium severity	0.94	(0.82, 1.08)	1.03	(0.81, 1.30)	1.07	(0.79, 1.45)
High severity	1.01	(0.85, 1.20)	1.28	(0.96, 1.70)	1.14	(0.80, 1.62)
Time (linear)	1.08**	(1.05, 1.11)	1.07**	(1.03, 1.11)	1.05**	(1.01, 1.09)
Time (quadratic)	1.00*	(1.00, 1.00)	1.00**	(1.00, 1.00)	1.00	(1.00, 1.00)
Time (cubic)	-	-	-	-	1.00	(1.00, 1.00)
Welfare reform	0.86	(0.71, 1.03)	0.50**	(0.43, 0.63)	0.72*	(0.53, 0.98)
Post reform	0.84	(0.61, 1.16)	0.38**	(0.26, 0.55)	0.66	(0.41, 1.09)
<b>SSI (N = 127,368)</b>						
Age	0.99**	(0.98, 0.99)	0.99*	(0.98, 1.00)	0.99*	(0.98, 1.00)
Male	1.58**	(1.35, 1.88)	1.31*	(1.00, 1.69)	1.32*	(1.02, 1.72)
Caucasian	0.98	(0.82, 1.16)	0.75	(0.52, 1.07)	0.76	(0.52, 1.07)
African-American	0.99	(0.85, 1.15)	1.02	(0.76, 1.36)	1.02	(0.77, 1.38)
Medium severity	0.96	(0.79, 1.16)	1.26	(0.88, 1.8)	1.26	(0.89, 1.80)
High severity	1.12	(0.89, 1.42)	1.22	(0.78, 1.9)	1.21	(0.78, 1.88)
Time (linear)	1.073**	(1.05, 1.09)	0.89**	(0.87, 0.92)	0.84**	(0.80, 0.88)
Time (quadratic)	0.999**	(0.99, 0.99)	1**	(1.00, 1.01)	1.00**	(1.00, 1.01)
Time (cubic)	-	-	-	-	1.00	(1.00, 1.00)
Welfare reform	0.951	(0.75, 1.19)	3**	(1.97, 4.48)	1.65	(0.99, 2.77)
Post reform	0.945	(0.7, 1.29)	2.6**	(1.43, 1.87)	0.79	(0.30, 2.18)
<b>GA (N = 643,896)</b>						
Age	0.99**	(0.98, 0.99)	1.02**	(1.01, 1.03)	0.98**	(0.97, 0.98)
Male	1.12*	(1.04, 1.22)	0.41**	(0.33, 0.49)	0.88*	(0.78, 0.99)
Caucasian	1.03	(0.93, 1.13)	0.83	(0.61, 1.14)	1.25*	(1.03, 1.5)
African-American	1.13*	(1.04, 1.25)	0.68*	(0.52, 0.91)	1.54**	(1.28, 1.8)
Medium severity	0.93	(0.83, 1.03)	1.06	(0.77, 1.45)	0.89	(0.75, 1.06)
High severity	1.07	(0.95, 1.2)	0.90	(0.59, 1.36)	1.22*	(1.01, 1.47)
Time (linear)	1.06**	(1.05, 1.06)	1.07**	(1.03, 1.13)	1.00	(0.99, 1.01)
Time (quadratic)	0.99**	(0.99, 0.99)	1.00*	(1.00, 1.00)	1.00**	(0.99, 1.00)
Time (cubic)	-	-	1.00	(1.00, 1.00)	-	-
Welfare reform	1.42*	(1.12, 1.79)	1.21	(0.84, 1.73)	0.33**	(0.27, 0.39)
Post reform	1.08	(0.73, 1.63)	0.94	(0.48, 1.84)	0.34**	(.24, .44)

Note: Number of cases in each category is in person-months. OR = Odds Ratio, CI = Confidence Interval.  
\* $p < .05$ , \*\* $p < .001$ .

The first column in Table 5-3 examines the influence of explanatory variables on the probability of welfare eligibility loss. As individuals in the cohort were followed for a limited number of years, it was not possible to determine whether a recorded loss of welfare eligibility was permanent or temporary. For this reason, the change modeled in this analysis was any period of non-receipt following a welfare exit that lasted more than two months. Given that one to two months of non-eligibility may be a consequence of administrative churning (Bane & Ellwood, 1994), this seems to be a reasonable use of this variable.

Table 5-3 reports a number of similarities in estimated odds ratios across all welfare eligibility categories. Age was a significant predictor of welfare eligibility loss in all models suggesting that an increase of one year of age reduced the odds of experiencing welfare eligibility loss by 1-2% regardless of initial welfare eligibility category. In other words, the likelihood of welfare eligibility loss decreases as age increases (see similar pattern in Table 5-2). Sex was also a significant predictor of welfare eligibility loss in all three welfare eligibility categories. Males in the AFDC category (24.2%) had 1.21 the odds of females to experience loss of welfare eligibility. The odds for males in the SSI (71.7%) and GA (81%) categories were 1.58 and 1.12, respectively. This finding is consistent with that of the previous analysis (Table 5-2) regarding the over-representation of males among cyclers and the relatively high percentages of women in these categories that experienced no change in welfare eligibility status. Differential likelihood of welfare eligibility loss by race exists only within the general GA category. African-Americans had 1.13 times the odds of Hispanics and others (the reference group) to experience welfare eligibility loss.

More importantly, the results of this analysis suggest that welfare reform had an independent contribution to the odds of welfare eligibility loss among the group of substance abusers eligible under GA. The odds of welfare eligibility loss among members of this group were 1.42 higher during welfare reform compared to the pre-welfare reform period. This finding is consistent with Hypothesis 1 as well as the proposition that the impact of welfare reform on welfare eligibility loss was primarily limited to the period immediately following the introduction of the GA reform measures. The fact that similar effects of welfare reform were not observed for individuals within the AFDC and SSI categories resonates with previous findings such as the fact that 71% of the individuals in the cohort who did not experience any changes in welfare eligibility status were eligible for welfare under SSI.

The analysis presented in the second column in Table 5-3 pertains to the impact of welfare reform on substance abusers' likelihood of experiencing a change involving a shift between two different welfare programs. Welfare reform decreased the odds of experiencing a shift to another eligibility category for substance abusers under the AFDC category (OR = .50 and .38 for the period during and post-welfare reform, respectively). Similarly, the odds of experiencing a change involving a shift within AFDC (the third column in Table 5-3) have decreased as well following welfare reform in comparison to the pre-welfare reform period (OR = .72). On the other hand, welfare reform tripled the odds of individuals eligible under SSI to shift into a different welfare eligibility category. Recall that the recent SSI measure eliminated substance abuse as a criterion for disability and, therefore, is expected to result in loss of eligibility to welfare under SSI for many in this sub-population. However, these individuals may regain eligibility under a different category such as GA.

In contrast, individuals who are eligible for welfare under the GA category are more likely to lose and regain welfare eligibility (i.e., cycle on and off welfare) given the fluid nature of this program. The results of a previous analysis (Table 5-2) already demonstrated that many in this population experienced multiple changes in eligibility status throughout the research period. Hence, the fact that the odds of experiencing a shift within the GA program decreased by about 70% for this sub-population with the introduction of welfare reform measures may simply be explained by the corresponding increase in the odds of experiencing a competing risk (i.e., welfare eligibility loss).

#### Impact of Welfare Reform on the Likelihood of Return to Welfare

Hypothesis 1b suggests that the likelihood of individuals in the cohort to return to welfare after being dropped will decrease following welfare reform. Table 5-4 summarizes the results of fitting a GEE model to this type of change in welfare eligibility status. The results show a significant effect of welfare reform on the likelihood of return to welfare in all three welfare eligibility sub-groups. However, the direction of this impact for AFDC and SSI (increased odds of return to welfare in the post welfare reform period compared to the pre-welfare reform period) is somewhat counterintuitive given the opposite prediction of hypothesis 1b. This result may still fit into the pattern of findings reported thus far if one takes into account that 55% of all returns to welfare ( $N = 12,125$  for 7,586 individuals) took place during the post-welfare reform period compared to 35% in the pre-welfare reform period. This, in turn, suggests that the number of interruptions in welfare eligibility increased following welfare reform (a proposition that will be tested next).

Table 5-4: GEE estimates of substance abusers' likelihood of return to welfare by demographic and personal characteristics and timing of welfare reform, Philadelphia, Pennsylvania, 1994-1999

Explanatory Variables	Return to Welfare	
	Adjusted OR	95% CI
<u>AFDC (N = 119,736)</u>		
Age	0.98**	(0.97, 0.99)
Male	1.14*	(1.01, 1.28)
Caucasian	1.04	(0.88, 1.25)
African-American	1.07	(0.91, 1.26)
Medium severity	0.93	(0.79, 1.09)
High severity	0.97	(0.78, 1.21)
Time (linear)	0.98*	(0.95, .99)
Time (quadratic)	1.00	(1.00, 1.00)
Time (cubic)	-	-
Welfare reform	1.06	(0.91, 1.2)
Post reform	1.58**	(1.25, 1.97)
<u>SSI (N = 127,368)</u>		
Age	0.97**	(0.96, .98)
Male	1.52**	(1.19, 1.97)
Caucasian	1.01	(0.76, 1.38)
African-American	1.15	(0.90, 1.48)
Medium severity	0.83	(0.62, 1.09)
High severity	1.07	(0.76, 1.51)
Time (linear)	0.98	(0.94, 1.02)
Time (quadratic)	1.00	(1.00, 1.00)
Time (cubic)	1.00	(1.00, 1.00)
Welfare reform	1.12	(0.74, 1.70)
Post reform	2.51**	(1.27, 4.95)
<u>GA (N = 643,896)</u>		
Age	0.98**	(0.98, .99)
Male	1.10*	(1.01, 1.21)
Caucasian	1.04	(0.93, 1.17)
African-American	1.15*	(1.03, 1.27)
Medium severity	0.89	(0.78, 1.01)
High severity	1.05	(0.92, 1.21)
Time (linear)	0.97**	(0.98, 0.98)
Time (quadratic)	-	-
Time (cubic)	-	-
Welfare reform	0.75**	(0.66, 0.83)
Post reform	1.02	(.86, 1.19)

Note: Number of cases in each category is in person-months. OR = Odds Ratio, CI = Confidence Interval.

\* $p < .05$ , \*\* $p < .001$ .

Notwithstanding, the results of this analysis for the GA sub-population are in line with the direction proposed by hypothesis 1b. Specifically, the odds of returning to welfare during the period in which the reform measures were introduced decreased by



25% for individuals in this group. This finding gives an additional reason to argue that the impact of welfare reform on the dynamics of welfare receipt among this cohort of substance abusers was mainly reserved for individuals eligible for welfare under GA.

Another important finding in Tables 5-3 and 5-4 is that severity of the substance abuse disorder has no predictive power regarding change in welfare eligibility status. A significant contribution of high severity to the odds of experiencing change in welfare eligibility status was only recorded for change within the GA program (OR = 1.22, see Table 5-3). This finding seems to reject hypothesis 2 according to which individuals with high severity level of a substance abuse disorder will be less likely to lose welfare eligibility and more likely to return to welfare than individuals with lower severity level.

#### Differences in the Impact of Welfare Reform Across Welfare Programs

Figure 5-3 tests the predictions made by hypotheses 3 through 5 concerning changes in the percentages of individuals in the cohort eligible for welfare under different categories. Hypothesis 3 suggests a moderate decrease in the percentages of individuals eligible under SSI following welfare reform. Hypothesis 4 proposes an incremental decrease in the percentages of eligible substance abusers under AFDC following welfare reform. Finally, hypothesis 5 postulates a sharp decrease following welfare reform in the percentages of individuals eligible under GA.

Backed by the results of the GEE analysis, the trends plotted in Figure 5-3 seem to support these hypotheses. First, the sharp decrease in the percentages of substance abusers eligible for welfare under GA following welfare reform (38% in March 1996 compared to 20.7% in March 1997) is consistent with the prediction of hypothesis 5. Next, the trend in the percentages of substance abusers eligible under AFDC shows an

incremental decline following welfare reform (from 10.2% in March 1996 to 9.4% in March 1997), as suggested by hypothesis 4, although it is unclear that welfare reform had an independent contribution to this observed trend. The same is true regarding the percentages of substance abusers in the SSI category that slightly decreased between March of 1996 and 1997 (17.7% vs. 17.2%), as proposed by hypothesis 3.

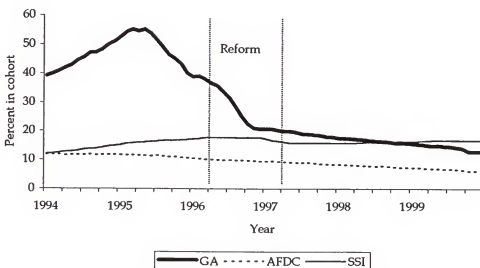


Figure 5-3: Monthly percentages of individuals in a cohort of substance abusers eligible for welfare by welfare eligibility category, Philadelphia, Pennsylvania, 1994-1999 (N = 72 months)

Figure 5-4 examines changes in the number of substance abusers eligible for welfare receipt under different categories by level of severity of the substance abuse disorder. Notice that the left-hand Y-axis measures the number of individuals in the low and high severity categories while the right-hand Y-axis measures the number of individuals in the medium severity category. The solid line in each of the 3 graphs represents the timing of the introduction of the specific legislative measure that mandated change.

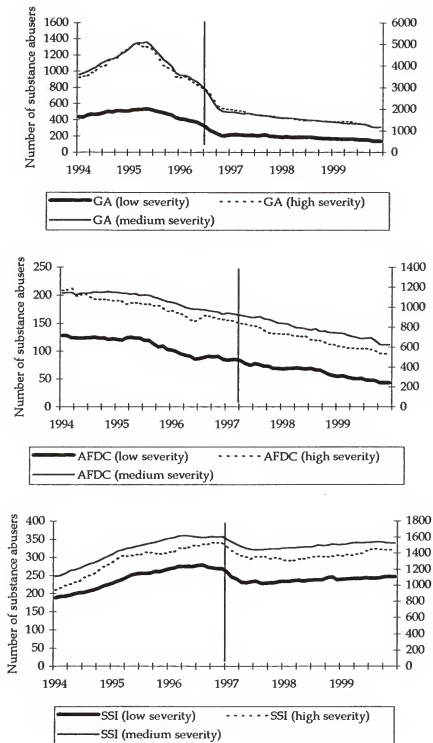


Figure 5-4: Monthly number of individuals in a cohort of substance abusers eligible for welfare by welfare eligibility category and severity of substance abuse disorder, Philadelphia, Pennsylvania, 1994-1999 (N = 72 months)

According to hypothesis 5, the decrease in the number of individuals eligible for welfare under GA will be greater for individuals with lower severity levels of a substance abuse disorder compared to individuals in the high severity category. In contrast to this hypothesis, the comparison of trends between these groups (see top panel in Figure 5-4) shows that the decrease in the medium and high severity groups was slightly greater than that for the low severity group.

The results in Figure 5-4 support hypothesis 4 in relation to the absence of differences among severity groups in the rate of decrease in the number of individuals eligible for welfare under AFDC (see the middle panel in Figure 5-4). The decreasing trend within this category is virtually identical for all severity groups following welfare reform. On the other hand, hypothesis 3 that predicts a higher rate of decrease for individuals in the lower severity groups under the SSI category was not supported given the almost identical trend across severity groups (see the bottom panel in Figure 5-4). This analysis reinforces the previous conclusion that severity of the substance abuse disorder is not an important determinant of differential welfare reform effects on the population of substance abusers.

Overall, then, the results of the analyses conducted thus far support the proposition that welfare reform altered patterns of welfare dynamics for individuals treated for a substance abuse disorder. Specifically, there is evidence that the introduction of recent welfare reform measures increased the likelihood of welfare eligibility loss and decreased the likelihood of return to welfare among substance abusers in the GA program. There is also evidence that welfare reform resulted in shorter than usual stays on welfare for the majority of individuals in the cohort. In contrast to the study's hypothesis, there was no consistent evidence that differential

levels of severity of a substance abuse disorder may be predictive of differential impact of welfare reform on substance abusers. While this finding may reflect a lack of association between these variables in reality, it is also likely that the measure of severity used in this study is not adequate or sensitive enough to allow a plausible comparison of effects across severity groups.

### **Step 2: Effect of Welfare Reform on Medicaid Eligibility**

As previously noted, an impact of welfare reform on welfare dynamics automatically implies an impact of welfare reform on MA eligibility patterns. According to hypothesis 6, changes in welfare dynamics with the introduction of welfare reform will increase substance abusers' likelihood of MA eligibility loss (hypothesis 6a) and decrease the likelihood of regaining MA coverage (hypothesis 6b). In addition, the changes in welfare dynamics described above are expected to result in shorter than usual stays on MA (hypothesis 6c) and more frequent interruptions in MA coverage (hypothesis 6d). The previous analysis supports the proposition that welfare reform increased the likelihood of MA eligibility loss and decreased the likelihood of regaining MA eligibility (though only for those in the GA category). There is also evidence that the average length of stay on MA decreased following welfare reform.

The only aspect that has not been addressed thus far is the frequency of interruptions in MA eligibility before and after welfare reform. Interruptions in MA coverage (i.e., on or off MA spells that last 1-3 months) were quite frequent in the pre-welfare reform period (3,639 spells) but they were more frequent in the two years following the introduction of welfare reform (4,232 spells). This statistically significant difference (Chi-square = 12.78, df = 2,  $p < .01$ ) seems to support the prediction of

hypothesis 6d. It is worth noting that one to two months of non-eligibility may be a consequence of administrative churning (Bane & Ellwood, 1994) and short spells are, therefore, often treated as a single continuous spell. If we employ this rule to this analysis, there is no evidence of differences in number of interruptions throughout the research period. Nonetheless, it is likely that short spells due to administrative readjustment to new regulations are a direct consequence of welfare reform and, therefore, may be deemed valid for the purposes of this analysis.

#### Effects of Decoupling Under Welfare Reform on MA Eligibility

The remaining hypotheses regarding the impact of welfare reform on patterns of MA eligibility (hypotheses 7-9) concern the distinction between the impact of welfare reform on those eligible for both welfare benefits and MA coverage and those eligible for MA coverage only. Hypothesis 7 predicts that within the AFDC category, the percentages of those eligible for both cash benefits and MA coverage will decrease whereas the percentages of those eligible for MA coverage only will increase. Figure 5-5 that tests this proposition, demonstrates a clear downward trend in the percentages of individuals in the cohort eligible for both welfare benefits and MA coverage (from 8.1% in the beginning of 1997 to 4.4% at the end of the research period) and a slight increase (from 1.2% to 1.66% during the respective period) in the percentages of those eligible for MA coverage only. Whereas these trends are in agreement with hypothesis 7, it is also clear that the decrease in the percentages eligible for both cash assistance and MA coverage following welfare reform was part of a general decrease (or the secular trend) that started prior to welfare reform and cannot be considered as an independent contribution of welfare reform. A statistical test of this proposition can be performed by fitting the same GEE models used in the previous analysis to model welfare eligibility

loss separately for AFDC cash and MA and AFDC MA only and look for a statistically significant contribution of welfare reform dummies (during and after) to the odds of experiencing MA eligibility loss. The fact that this procedure generated non-significant results in both cases clearly makes the argument of null welfare reform effects stronger.

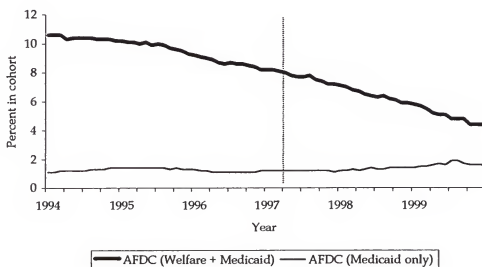


Figure 5-5: Monthly percentage of individuals in a cohort of substance abusers eligible for welfare under AFDC/TANF by type of eligibility for benefits, Philadelphia, Pennsylvania, 1994-1999 (N = 72 months)

Hypothesis 8 suggests a moderate decrease in the percentages of substance abusers eligible under SSI either for both cash assistance and MA coverage or for MA coverage only. Figure 5-6 that represents the trends in these percentages over the research period, illustrates that, as hypothesized, the percentage of those eligible for both cash assistance and MA coverage decreased following welfare reform from 15% to 13.8% and remained at the new level throughout the remaining observation period. GEE analysis confirms the significance of this change controlling for the secular trend in MA eligibility loss within this sub-population with a statistically significant adjusted

odds ratio of 1.11 for the period in which welfare reform measures were introduced. It is important to note that this finding is at odds with the results of the analysis reported previously regarding the null impact of welfare reform on welfare eligibility loss under SSI (Table 5-3). The current analysis suggests that the likelihood of welfare (and MA) eligibility loss increased under SSI following welfare reform only for individuals eligible for both cash benefits and MA (but not for individuals eligible for MA only). As for individuals eligible for MA only, the trend in Figure 5-6 fluctuates considerably over time with some unexplained outliers. Nonetheless, smoothing this series with a natural log transformation suggests that the percentage of those eligible for MA only may have slightly increased following welfare reform, as hypothesized. However, the GEE analysis did not generate evidence in support of a significant contribution of welfare reform to the likelihood of MA eligibility loss within this group.

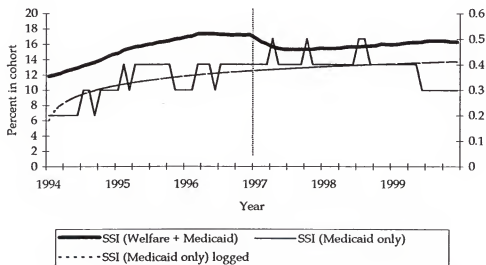


Figure 5-6: Monthly percentage of individuals in a cohort of substance abusers eligible for welfare under SSI by type of eligibility for benefits, Philadelphia, Pennsylvania, 1994-1999 (N = 72 months)



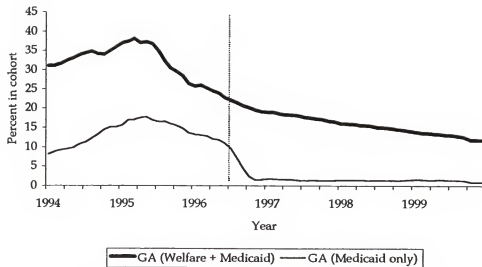


Figure 5-7: Monthly percentage of individuals in a cohort of substance abusers eligible for welfare under GA by type of eligibility for benefits, Philadelphia, Pennsylvania, 1994-1999 (N = 72 months)

Finally, hypothesis 9 predicts that the percentage of individuals eligible under GA for MA coverage only will decrease sharply following welfare reform whereas the percentages of those eligible for both cash assistance and MA coverage will slightly decrease. The observed trends in Figure 5-7 seem to support this hypothesis. Following the introduction of GA reform in June 1996, the percentage of those eligible for MA only dropped from 11.8 to 2.4 within the following 4 months. The GEE model estimated for MA eligibility loss among this sub-group showed a significant increase in the likelihood of MA eligibility loss ( $OR = 1.38$ ) during the welfare reform period, controlling for all fixed covariates and the trend in this variable. During the same period, the percentages of those eligible for both cash assistance and MA coverage decreased from 22.7 to 20.1, but this difference was not found to be significant after fitting the same GEE model for this sub-group. Again, the fact that changes in MA eligibility under the GA category were particularly manifested in comparison to

changes within federal public assistance programs (i.e., AFDC and SSI) comes as little surprise given that individuals eligible under this category were particularly susceptible to welfare eligibility loss.

In summary, the results presented in this section demonstrate that changes in welfare dynamics were manifested, in turn, in changing patterns of MA eligibility among substance abusers, particularly those eligible for MA only under the GA category. This specific sub-group was hit hard by welfare reform measures, not only in terms of increased likelihood of MA eligibility loss but primarily in terms of reduced likelihood of regaining eligibility. In addition to increased likelihood of MA eligibility loss and reduced likelihood of regaining MA eligibility, the results also support the proposition that changes in welfare dynamics following welfare reform have contributed to shorter than average lengths of stay on MA and more frequent interruptions in MA eligibility. On the other hand, there was no evidence of welfare reform's impact on any segment of the AFDC population. The observed decrease in the proportion of those eligible for MA coverage (with or without eligibility for cash benefits) was part of the secular trend within this sub-population. There was some evidence that welfare reform had a modest contribution (of about 11%) to the odds of MA eligibility loss for the group of individuals eligible for both cash benefits and MA coverage under the SSI program. Still, the results of the previous section (Table 5-4) also demonstrate that individuals in both programs (SSI and AFDC) had increased odds of regaining MA eligibility after experiencing loss.

### **Step 3: Effect of Changes in Medicaid Eligibility on Behavioral Health Service Access and Utilization**

Hypotheses 10 and 11 predict that substance abusers' access to behavioral health services will decrease following welfare reform while the utilization of these services will increase. Access is the ratio of services utilized to the number of individuals in the cohort. As the analysis above demonstrates, a significant portion of this population lost MA eligibility following welfare reform while others increasingly cycle on and off MA. One implication of this may be that fewer individuals in this population utilize services (i.e., a smaller number of services for the same-size population) while others are likely to be denied access to health services they need because they are not eligible for MA. On the other hand, level of service utilization is measured as the ratio of services utilized to the number of individuals in the cohort who are MA eligible. Since the percentages of those eligible for MA coverage has decreased following welfare reform (see results of previous section), the ratio of services to the remaining MA eligibles is expected to increase as service utilization following welfare reform reduces at a slower rate than that of the number of individuals eligible for MA.

Since access to and utilization of behavioral health services is examined at the population-level, an appropriate test of hypotheses 10 and 11 involves the use of aggregated measures (ratios of services to individuals, in this case). Nonetheless, aggregation is particularly vulnerable to missing data that may result in biased estimates of aggregated measures and increased susceptibility for ecological fallacy. As it turns out, the problem of missing data particularly impinges on the analysis of services utilization in this study. Specifically, during the course of the study, about 50% of individuals eligible for MA in Philadelphia who were previously eligible for services

under a fee-for-service (FFS) system, gradually received services under the auspices of health maintenance organizations (HMOs). As service utilization data are not available for the period prior to the implementation of a mandatory enrollment for behavioral health services under CBH (as discussed in Chapter 4), no reliable record of services is available for these individuals. On the other hand, a complete record of services is available for those individuals who remained eligible for services under FFS throughout the entire research period.

In order to minimize potential bias in aggregated measures (and, hence, allow for a valid comparison of service utilization over time), the analysis was limited to those individuals for whom a complete record of utilized services exist (i.e., individuals who remained eligible for MA services under FFS). Table 5-5 examines the differences in the distribution of key variables for those included and excluded from this analysis. The first column in Table 5-5 provides the breakdown of key variables within the cohort as a whole (N = 12,573) and is adopted from Table 4-1. The second column reports the distribution of these variables among the individuals included in the analysis (N = 4,812) whereas the third column does the same for those excluded from the analysis due to incomplete record of services (N = 7,761). The fourth and fifth columns reports the statistical significance of differences in distribution of variables between those included and excluded as estimated from a Chi-square test.

Table 5-5: Distribution of individual characteristics within a cohort of substance abusers, those within the cohort utilizing services under fee-for-service (FFS), and those utilizing services under health maintenance organizations (HMO), Philadelphia, Pennsylvania, 1994-1999

	Cohort (all) <sup>a</sup>	Included (FFS) <sup>b</sup>	Excluded (HMO) <sup>c</sup>	$\chi^2$ (d.f.) <sup>d</sup>	p-value
<u>Age</u>					
Age 18-32	32%	32.8%	33.5%		
Age 33-40	34%	34.5%	34.7%		
Age 41-64	33%	32.7%	31.8%	1.25 (2)	.534
<u>Race</u>					
Caucasians	24.5%	30.5%	20.8%		
African-Americans	63%	51.4%	70.1%		
Hispanic	11.5%	17%	8.2%		
Other	1%	1.1%	.9%	484.9 (3)	.0001
<u>Sex</u>					
Males	72.1	78.3%	68.2%		
Females	27.9	21.7%	31.8%	151.2 (1)	.0001
<u>Severity of Substance Abuse</u>					
Low	9.1%	10.3%	8.3%		
Medium	74.3%	67.6%	78.4%		
High	16.6%	22.1%	13.2%	199.9 (2)	.0001
<u>Co-Occurring Mental Health Diagnosis</u>					
Severe mental illness	12.3%	16.3%	9.9%	115.2 (1)	.0001
Mental health disorder	12.2%	15.5%	10.2%	79.92 (1)	.0001
<u>Initial Welfare Eligibility Category</u>					
GA (welfare + Medicaid)	49.8%	46%	52.1%		
GA (Medicaid only)	21.6%	22.8%	20.9%		
AFDC (Welfare + Medicaid)	11.4%	9.3%	12.7%		
AFDC (Medicaid only)	1.8%	2.1%	1.7%		
SSI (Welfare + Medicaid)	13.7%	17.3%	11.5%		
SSI (Medicaid only)	.4%	.7%	.2%		
Other (Medicaid only)	1.2%	1.7%	.9%	164.6 (7)	.0001
N	12,573	4,812	7,761		

<sup>a</sup> Percent within the entire cohort.

<sup>b</sup> Percent within those included in the analysis of behavioral health services utilization.

<sup>c</sup> Percent within those excluded from the analysis of behavioral health services utilization.

<sup>d</sup> Chi-square test of differences between those included and excluded (degrees of freedom).

The comparison in Table 5-5 reveals that there were no significant differences in the distribution of age between the groups (i.e., included and excluded). However, Caucasians were over-represented and African-Americans under-represented among those included in the analysis compared to both those excluded and the entire cohort. Still, as racial differences are not expected to generate differential levels of service utilization, this difference is not of concern. Similarly, males are slightly over-represented within the group included in the analysis, but this difference is not substantial enough to generate biased aggregated estimates of access and utilization.

On the other hand, severity of the substance abuse disorder and co-occurring mental health diagnosis are likely to be a good proxy of services use (individuals with more severe disorder are likely to consume more services than others). This specific comparison shows a slightly greater percentage of individuals with high severity level of a substance abuse disorder and individuals with a co-occurring mental health diagnosis (severe mental illness or mental health disorder) within the group of individuals included in the analysis. While this difference is statistically significant, its magnitude is not likely to produce great variance in aggregated point estimates of behavioral health services utilization. Moreover, even if estimates are slightly skewed, they cannot take away from the validity of the comparison of estimates over time because whatever bias exists in estimates, it is fixed over time.

Lastly, Table 5-5 demonstrates that differences between the group of substance abusers included in the analysis and those excluded in terms of initial membership in a welfare eligibility category (GA, AFDC, and SSI) were small, overall. The most notable difference is in relation to membership in the GA (welfare + Medicaid) category where members of this group are under-represented among those included in the analysis.

However, in comparison to these individuals' percentage in the entire cohort, this deviation does not seem to be of concern. Overall, then, this comparison suggests that existing difference between those included and excluded from the analysis are unlikely to threaten the validity of pooling services utilized by a limited number of individuals and using them as estimates of services utilized by individuals in the cohort. Whatever bias exists in this estimates, the benefits of using this sub-sample clearly supercede the risks of relying on individuals without a complete record of services.

Table 5-6 examines changes in access to and utilization of behavioral health services between 1994 and 1999 for the sub-sample of individuals included in the analysis (N = 4,812). Changes over time in the monthly ratio of services to individuals are examined for 7 types of services: drug and alcohol-related hospitalization, mental health hospitalization, methadone outpatient contact, drug and alcohol outpatient contact (other than methadone), mental health outpatient contact, mental health partial hospitalization contact, and mental health case management contact. Ratios for access were calculated by dividing the number of services in each month by this population size (4,812). Ratios for utilization were calculated by dividing the number of services in each month by the number of individuals eligible for MA in this particular month. For the purposes of a clear presentation, monthly ratios were averaged to represent annual estimates. The first block of entries (under the 'access' sub-heading) pertains to changes in access to services over time. The second block (under 'utilization') examines changes in utilization of services over time. To verify that observed changes in ratios are significantly different across welfare reform periods while controlling for the trend in each variable, a univariate analysis of variance was performed where welfare reform

and time were set to be predictors of each variable. The results of this test are reported in the last column in this table).

Table 5-6: Access to and utilization of behavioral health services by a cohort of individuals treated for a substance abuse disorder in Philadelphia, Pennsylvania, 1994-1999 (N = 60 months)

	1994	1995	1996	1997	1998	1999	F-value (d.f.)
<b>Access</b>							
D&A hospitalizations	.11	.10	.05	.02	0	0	336.2** (3,56)
MH hospitalizations	.02	.02	.02	.02	.02	.02	.25 (3,56)
Methadone outpatient contacts	.90	.85	.91	.65	.50	.29	227** (3,56)
Other D&A outpatient contacts	.50	.45	.30	.26	.24	.22	115.3** (3,56)
MH outpatient contacts	.18	.24	.25	.13	.12	.12	102.4** (3,56)
MH partial hospitalization	.10	.12	.12	.11	.11	.10	2.5 (3,56)
MH case management contacts	.07	.08	.07	.08	.08	.08	7.04** (3,56)
<b>Utilization</b>							
D&A hospitalizations	.15	.13	.10	.05	.01	0	395** (3,56)
MH hospitalizations	.02	.02	.03	.04	.05	.04	43.5** (3,56)
Methadone outpatient contacts	1.19	1.16	1.73	1.55	1.30	.79	39.2** (3,56)
Other D&A outpatient contacts	.67	.61	.56	.62	.64	.58	5.79* (3,56)
MH outpatient contacts	.24	.32	.47	.31	.32	.32	48.6** (3,56)
MH partial hospitalization	.14	.16	.22	.26	.28	.27	41.2** (3,56)
MH case management contacts	.09	.10	.13	.19	.21	.22	142.7** (3,56)

Note: D&A = Drug and Alcohol, MH = Mental Health.

\* $p < .05$ , \*\* $p < .001$ .

Hypothesis 10 suggests that access to drug and alcohol-related (D&A) services will decrease whereas hypothesis 11 proposes that utilization of these services will increase. The findings indicate that access to all D&A-related services (i.e., hospitalization, methadone outpatient contacts, and other D&A-related outpatient



contacts) was lower following welfare reform and in all cases the impact of welfare reform was statistically significant when controlling for the secular trend (see the first block of entries). However, the results for changes in utilization of D&A-related services (the respective entries in the second block) do not seem to present a clear pattern. Specifically, utilization of both D&A-related hospitalizations and methadone outpatient services has actually decreased following welfare reform. In addition, utilization of other D&A-related services has only slightly increased between 1996 and 1998 and was followed by a decrease in 1999. A potential explanation for this discrepancy between the results and the prediction of hypothesis 11 is that, contrary to the expectation, the population of substance abusers remaining eligible for MA following welfare reform was not primarily comprised of individuals with more severe disorders who consume more services. Under these circumstances (i.e., a decreasing number of MA eligibles who consume similar level of services as prior to welfare reform), it is reasonable to expect that utilization of services will decrease as well.

Hypotheses 10 and 11 make similar predictions regarding access to and utilization of mental health (MH) services (MH hospitalizations, MH outpatient contacts, MH partial hospitalizations, and MH case management contacts). In contrast to the case of D&A-related services, access to MH services remained at the same level before and after welfare reform (see first block of entries). One exception is MH outpatient contacts for which access significantly decreased immediately following welfare reform (between 1996 and 1997). As far as utilization of MH services is concerned (see second block of entries), this analysis reports mixed results. MH hospitalizations, partial hospitalizations, and case management contacts increased only modestly following welfare reform but the impact of welfare reform was statistically

significant in all cases. On the other hand, the utilization of MH outpatient contacts has decreased following welfare reform (and this impact was also statistically significant). Overall, then, the results indicate a great degree of stability in access to MH-related services throughout the research period and only incremental changes in the utilization of these services. This pattern may be explained by the fact that the percentages of individuals with a co-occurring mental health disorder within the cohort remained stable (around 12%) both before and after welfare reform.

In summary, the results of this section provide some mixed results regarding the impact of welfare reform on substance abusers' access to and utilization of behavioral health services. On one hand, the results give a clear indication that access to D&A-related services has, in fact, decreased following welfare reform. At the same time, and counter to the expectation, the utilization of some of these services has decreased following welfare reform. Similarly, access to MH services does not seem to have been affected by welfare reform and while the utilization of MH services increased following welfare reform, the observed changes were modest, at best. These findings seem to imply that the impact of welfare reform on access to and utilization of behavioral health services by substance abusers was primarily conditioned on the extent to which welfare reform contributed to changes in the demographic mix of this population. Those requiring MH services stayed eligible for MA coverage following welfare reform and therefore experienced little to no change in access to and utilization of these services. In contrast, the fact that other substance abusers lost eligibility for welfare (and MA coverage) or otherwise cycled on and off MA seems to account for the reduction in access to D&A-related services among substance abusers.

## **CHAPTER 6: SUMMARY AND DISCUSSION**

### **Overview**

The main goal of the current research project was to offer a plausible theoretical model for the association between welfare reform, change in MA eligibility, and access to and utilization of behavioral health services by welfare recipients. The study's main proposition was that recent welfare reform measures altered welfare dynamics and introduced increased instability into patterns of MA receipt. This instability in MA eligibility, in turn, was expected to impact access to and utilization of behavioral health services by welfare recipients. This proposition was tested by examining the impact of three separate welfare legislation measures – the Contract with America Advancement Act of 1996 (P.L. 104-121, March 29, 1996), the Personal Responsibility and Work Opportunity Act (P.L. 104-193, August 22, 1996), and a Pennsylvania state GA initiative (P.L. 175, No. 35) (Act 35, June 17, 1996) on a population of treated substance abusers in Philadelphia.

### **Summary of Main Findings**

#### **Welfare Reform and Changing Welfare Dynamics**

The impact of recent welfare reform measures on individual welfare dynamics was examined within a longitudinal framework that utilized a comparison over time of changes in welfare eligibility as well as advanced longitudinal data analysis techniques (GEE estimation). The results of these analyses support the proposition that welfare reform altered patterns of welfare dynamics for individuals treated for a substance

abuse disorder. Specifically, this study provides evidence that the introduction of recent welfare reform measures increased the likelihood of welfare eligibility loss and decreased the likelihood of return to welfare among substance abusers in the GA program and those eligible for both cash benefits and MA coverage under SSI. There is also evidence that welfare reform resulted in shorter than usual stays on welfare for the majority of individuals in the cohort. In contrast to the study's hypotheses, there was no consistent evidence that differential levels of severity of a substance abuse disorder may be predictive of differential impact of welfare reform on substance abusers. While this finding may reflect a lack of association between these variables in reality, it is also likely that the measure of severity used in this study is not adequate or sensitive enough to allow a plausible comparison of effects across severity groups.

Most notably, the results reported in this study suggest that those eligible for welfare under the GA category prior to welfare reform were the ones most influenced in terms of welfare dynamics. This supports the hypotheses that differential effects of welfare reform are likely to be contingent upon the particular legislation that mandated reform, and suggests that of the three measured considered, the reform in the GA program was the most consequential for substance abusers.

#### Changes in Welfare Dynamics and Patterns of MA Eligibility

The results demonstrate that changes in welfare dynamics were manifested, in turn, in changing patterns of MA eligibility among substance abusers, particularly those eligible for MA only under the GA category. This specific sub-group was hit hard by welfare reform measures, not only in terms of increased likelihood of MA eligibility loss but primarily in terms of reduced likelihood of regaining eligibility. As Pennsylvania GA reform particularly targeted GA recipients who were eligible for MA coverage, it

was expected that there would be a significant drop in the number of individuals eligible for GA MA only.

In addition to increased likelihood of MA eligibility loss and reduced likelihood of regaining MA eligibility, the results also support the proposition that changes in welfare dynamics following welfare reform have contributed to shorter than average lengths of stay on MA and more frequent interruptions in MA eligibility. This finding is likely to reflect the impact of more stringent program requirements and bureaucratic rules, such as work programs, that make it more difficult for substance abusers to meet these requirements over time. On the other hand, there was no evidence of welfare reform's impact on any segment of the AFDC population. The observed decrease in the proportion of those eligible for MA coverage (with or without eligibility for cash benefits) was part of the secular trend within this sub-population. There was some evidence that welfare reform had a modest contribution (of about 11%) to the odds of MA eligibility loss for the group of individuals eligible for both cash benefits and MA coverage under the SSI program.

#### Patterns of MA Eligibility and Behavioral Health Service Access and Utilization

The analysis of the relationship between changing MA eligibility patterns and access to and utilization of behavioral health services by substance abusers was conducted based on aggregated data adjusted for changes in the MA eligible pool. The results of this analysis provided mixed results regarding the impact of welfare reform on substance abusers' access to and utilization of behavioral health services. On one hand, the results give a clear indication that access to D&A-related services has, in fact, decreased following welfare reform. At the same time, and counter to the expectation, the utilization of some of these services has decreased following welfare reform.

Similarly, access to MH services does not seem to have been affected by welfare reform and while the utilization of MH services increased following welfare reform, the observed changes were modest, at best. These findings seem to imply that the impact of welfare reform on access to and utilization of behavioral health services by substance abusers was primarily conditioned on the extent to which welfare reform contributed to changes in the demographic mix of this population. Those requiring MH services stayed eligible for MA coverage following welfare reform and therefore experienced little to no change in access to and utilization of these services. In contrast, the fact that other substance abusers lost eligibility for welfare (and MA coverage) or otherwise cycled on and off MA seems to account for the reduction in access to D&A-related services among substance abusers.

### **Study Limitations**

There are several important limitations to this study. First, due to the nature of the data (i.e., data associated with claims for service utilization), only individuals who had been treated for a substance abuse disorder could be considered in this analysis. Thus, it was not possible to identify welfare recipients who are substance abusers but not receiving treatment. Therefore, in so far as the results of this study are generalizable, they are only so for individuals who have been treated for a substance abuse problem. It is important to note that the results of this study may underestimate the impact of welfare reform on individuals with substance abuse problems overall as individuals in treatment may be more able to retain eligibility for welfare and MA than individuals who are not in treatment. This may be due, in part, to their connection to the system as well as the potential stabilizing effect of treatment on the disorder.

Second, substance abuse disorders were identified based on primary diagnosis alone. There are no outcome measures in the data that might better reflect severity of symptoms and functioning level both of which are hypothesized to impact an individual's dependence on welfare and ability to retain welfare over time. Therefore, as suggested previously, this study used primary diagnosis and number of diagnoses to reflect severity and was not successful in identifying differences by severity. In addition, individuals that received a service related to a mental health diagnosis could be identified, however, no services related to health care were available. Therefore, it is possible that some individuals received health care services related to diagnoses that could better inform this study in terms of ability to function and complexity of health and behavioral health symptoms. Without primary data on the health and social status of an individual, it is difficult to understand how complexity of symptoms or severity plays into welfare dynamics.

Third, data utilized for this study included only administrative claims data from the MA system, not county funded services or services funded through private insurance. While it is unlikely that many of the individuals in the group of treated substance abusers gained access to behavioral health services through private insurance, it is much more likely that some of these individuals did receive county funded services at some point in time. It would have been possible for an individual to receive county funded services not covered under MA, while eligible for MA. In addition, it would be possible that some individuals who lost coverage for MA still received some services under the county funded system. Therefore, this study only addresses access to and utilization of services under the MA system and may be

underestimating the number of services individuals receive both during times of MA eligibility as well as during times of MA ineligibility.

Fourth, as the implementation of federal programs differs between states and state-level programs are not readily comparable (Chavkin et al., 2000; Zedlewski & Giannarelli, 1997), the results reported here are limited to the site from which data were collected. Nonetheless, a reasonable argument can be made that as Philadelphia is a large urban center, the patterns of findings observed in this study may be potentially similar to that in other large urban centers.

Finally, and perhaps most importantly, as MA data does not provide the reason for loss of welfare or MA eligibility, the hypothesized causal mechanism that links changes in welfare policy to loss of welfare or MA eligibility cannot be readily verified with the available data. While efforts have been made to control for external sources of influence that may intervene in the relationship between changes in welfare dynamics and changing patterns of MA eligibility (e.g., the use of fixed-effects models), the results of this study can only suggest that this hypothesized causal mechanism is plausible.

### **Policy Implications and Future Research**

The current study provides compelling evidence that welfare reform contributed to loss and unstable patterns of MA eligibility among welfare recipients who require treatment for a substance abuse disorder. As evidence regarding the secondary effects of welfare reform on loss of MA eligibility continues to mount (Chavkin et al., 2000; Garrett & Holahan, 2000; Ku & Bruen, 1999; Ku & Garrett, 2000; Maloy et al., 1999), this study calls attention to the mechanism (namely, welfare dynamics) through which welfare reform measures lead to undesirable outcomes in terms of MA coverage. This



additional insight into the secondary effects of welfare reform is increasingly important in light of studies showing a link between changes in welfare eligibility patterns and serious implications regarding welfare recipients' access to and utilization of health services (Brown & Cousineau, 1991; Klein & Fish-Parcham, 1999; Lurie et al., 1986; Wilensky & Berk, 1983). The notion of welfare dynamics as a linking mechanism between welfare legislation and patterns of MA eligibility seems to be a valuable model of effects. The complexity of welfare dynamics makes it difficult to fully estimate the impact of changes in welfare policy on welfare populations. Hence, a research agenda that focuses on the determinants and outcomes of welfare dynamics (rather than simply describing it) is an overdue task that may prove valuable in future efforts by researchers to study different aspects of welfare reform's impact on welfare recipients.

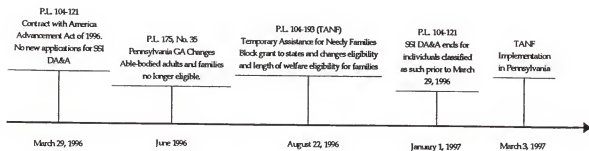
Beyond that, the findings presented here suggest that individuals with substance abuse problems appear to have been impacted by recent welfare measures twice: once in terms of changes in welfare dynamics and second, in terms of patterns of MA eligibility. The fact that a substantial number of these individuals lost eligibility for welfare and MA coverage comes as no surprise given that recent reforms both directly and indirectly targeted these individuals. However, an aspect not considered when designing these legislative measures, was the fact that some of these individuals may find it difficult to become self-sufficient, in part, due to their substance abuse disorder or a host of social and health problems, and, therefore, may either remain untreated or return to the welfare system at a future point in time. Therefore, it seems appropriate to reconsider targeting individuals with substance abuse disorders and instead address specific issues of concern for these individuals, such as their welfare dependence and types of programs that might help them remain self-sufficient. It becomes vital then to

continue to examine welfare dynamics among substance abusers, and, specifically, to understand the reasons for losing or leaving welfare as well as the reason for subsequent returns.

Finally, recent welfare reform was based, in part, on a presumption that the majority of welfare recipients could quickly become employable and find jobs, and that the welfare state was supporting individuals who were capable of being self-sufficient. Beyond allowing states the ability to opt out a certain percent of their welfare recipients from time limits and work requirements, there was little discussion about important distinctions among recipients that might hinder them in attaining self-sufficiency (Jayakody, Danzinger, & Pollack, 2000). This may be especially true for individuals with substance abuse disorders. Therefore, it now becomes important to focus attention on the extent to which recipients have clinically diagnosable conditions and whether such conditions provide an explanation for welfare dependence and also require enhanced treatment services and possible exemption from time limits (Jayakody et al., 2000). It may also be informative to consider, more specifically, the types of services utilized and the treatment patterns of individuals with substance abuse problems who are also dependent on welfare. For example, if individuals experience heavy service use of expensive short term treatment (such as inpatient detoxification and short-term residential treatment) and then cycle out of treatment regardless of whether or not they are eligible for MA coverage, then focusing on treatment retention in addition to providing uninterrupted access to MA over time is important in addressing the problem of substance abuse within the welfare population.

**APPENDIX A:**

**TIME LINE OF WELFARE REFORM**



**APPENDIX B:**

**SUBSTANCE ABUSE PDX**

PDX	Category
2910-2919, 3030	Alcohol-Induced Disorder
2920-2929	Drug-Induced Disorder
3039	Alcohol Dependence
3050	Alcohol Abuse
3040	Opioid Dependence
3055	Opioid Abuse
3042	Cocaine Dependence
3056	Cocaine Abuse
3041, 3043-3049	Other Drug Dependence
3051-3054, 3057-3059	Other Drug Abuse
295-296	SMI Diagnosis
290,293-294,297-302, 306-320	Mental Health Diagnosis

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